



Presentation of six cases of agricultural investments and their intended development outcomes

CHARACTERISATION OF DANISH AGRICULTURAL INVESTMENTS IN TANZANIA AND UGANDA

Rikke Brandt Broegaard and Helle Munk Ravnborg, with inputs from Evelyne Lazaro, Teddy Triza Nakanwagi, David Mwesigye Tumusiime, Festo Maro, Michael Bruce Byaruhanga, Bernard Bashaasha and Khamaldin Mutabazi

Acknowledgements

Working Papers make DIIS researchers' and partners' work in progress available to readers prior to formal publication. They may include documentation which is not necessarily published elsewhere. DIIS Working Papers are published under the responsibility of the author alone.

This DIIS Working Paper has been prepared as part of the Agricultural Investors as Development Actors (AIDA) research programme, which is funded through the Danish Council for Development Research under the Danish Ministry of Foreign Affairs. The AIDA programme involves scholars from DIIS and Copenhagen University, both in Denmark, Makerere University in Uganda and Sokoine University of Agriculture in Tanzania.

The authors would like to thank all the many individuals in Denmark, Uganda and in Tanzania who agreed to be interviewed as part of the research.

Rikke Brandt Broegaard

Associate Professor, Rikke.broegaard@ign.ku.dk

Helle Munk Ravnborg

Senior Researcher, hmr@diis.dk

Evelyne Lazaro

Senior Research Fellow, Lazaroa@sua.ac.tz

Teddy Triza Nakanwagi

PhD Candidate, Trizan2002@yahoo.com

David Mwesigye Tumusiime

Professor, David.tumusiime@mak.ac.ug

Festo Maro

PhD Candidate, Marofesto@gmail.com

Michael Bruce Buaryhanga

PhD Candidate, bmbbyaruhanga@gmail.com

Bernard Bashaasha

Professor, bashaasha@caes.maek.ac.ug

Khamaldin Mutabazi

Senior Lecturer, Khamaldin2011@gmail.com

Cover photo: Rikke Brandt Broegaard

DIIS WORKING PAPER 2022: 09

DIIS · Danish Institute for International Studies
Østbanegade 117, DK-2100 Copenhagen, Denmark
Tel: +45 32 69 87 87

E-mail: diis@diis.dk

www.diis.dk

ISBN 978-87-7236-087-4 (pdf)

DIIS publications can be downloaded free of charge from www.diis.dk

© Copenhagen 2022, the authors and DIIS

CHARACTERISATION OF DANISH AGRICULTURAL INVESTMENTS IN TANZANIA AND UGANDA

**Rikke Brandt Broegaard and Helle Munk Ravnborg, with
inputs from Evelyne Lazaro, Teddy Triza Nakanwagi, David
Mwesigye Tumusiime, Festo Maro, Michael Bruce
Byaruhanga, Bernard Bashaasha and Khamaldin Mutabazi**

TABLE OF CONTENTS

List of abbreviations	3
Abstract	4
Introduction	5
Methods and brief introduction of the investment locations	8
Methods	8
Key characteristics of the six investment locations	9
Case I: Medium-scale flower production. Private investment with loan-based development finance, Njombe, Tanzania	16
Investment characteristics	16
Investor background and motivation	21
Pathways for intended development outcomes	22
Case II: Large-scale cereal and seed production. Capital fund with finance from Danish pension schemes and development finance, Iringa, Tanzania	23
Investment characteristics	23
Investor background and motivation	28
Pathways for intended development outcomes of investment	29
Case III: Large-scale coffee farm. Private investment with loan-based development finance, Karatu, Tanzania	38
Investment characteristics	38
Investor background and motivation	41
Pathways for intended development outcomes of investment	43
Case IV: Small-scale coffee farm. Private investment, Kanungu, Uganda	46
Investment characteristics	46
Investor background and motivation	51
Pathways for intended development outcomes of investment	52
Case V: Large-scale cereal production and machine station. Private investment, with loan-based foreign capital funds, Nwoya, Uganda	56
Investment characteristics	56
Investor background and motivation	64
Pathways for intended development outcomes of investment	66
Case VI: Medium-scale cereal and seed production with storage facility. Danish/Ugandan joint venture, private investment, Nakasongola, Uganda	72
Investment characteristics	72
Investor background and motivation	75
Pathways for intended development outcomes of investment	77

Postscript	78
Summary across cases and research locations	79
Summary of investment characteristics across investments	83
Summary of intended pathways of development outcomes, across investments	85
References	91

LIST OF ABBREVIATIONS

AIDA	Agricultural Investors as Development Actors
AMCOS	Agricultural Marketing Cooperative Societies
B2B	Business-to-Business
CDC	British International Investment (formerly Commonwealth Development Corporation)
CSR	Corporate Social Responsibility
DFIs	Development finance institutions
ESG	Environment, Social and Governance
FINNFUND	Finnish Fund for Industrial Cooperation Ltd.
GCC	Gorilla Conservation Coffee
IFU	Danish Investment Fund for Developing Countries
MIGA	Multilateral Investment Guarantee Agency
NOGAMU	National Organisation for Organic Farming
ODA	Official development assistance
OPIC	Overseas Private Investment Corporation
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
UCAD	Uganda Coffee Development Association
WFP	World Food Programme

ABSTRACT

This DIIS Working Paper presents short characterisations of six examples of foreign agricultural investments in Tanzania and Uganda which involve Danish investments. The six cases have been selected from a pool of 96 identified Danish agricultural investments in sub-Saharan Africa, which: (i) involve private Danish capital; (ii) engage in primary production; and (iii) have acquired land rights.

The objective is to analyse the six cases to better understand which processes the investors themselves identify or attempt to achieve when wanting to create or contribute to positive development effects from their investments. This working paper presents key characteristics of each of the six cases including crop, size and business model, as well as types of investors, their investment approach and the factors that motivate them. It also presents the different objectives that the investors have expressed wanting to achieve. As most of the investments involve private funds, it is reasonable to expect that one important goal is to ensure a viable economy in the investment. However, in addition to an economically sound investment, all of the investors behind these six cases have additional ambitions regarding ways in which they see themselves—through the investment—as contributors towards a positive societal development in the area of the investment. Thus, the working paper presents the different ways the investors see their investments contributing to development in the area. This may involve job creation or beneficial effects from the specific business model—for example through the provision of markets or storage facilities, a stimulation of (external) demand, or training, and including the use of outgrower schemes. It may also involve the introduction and spread of new technology or standards, or, as in the cases of hybrid seed production, beneficial effects originating from the product produced. It may involve the general stimulation of economic activity in an area, or corporate social responsibility (CSR)-type activities or engagement with local communities or actors outside of what is strictly related to the business model.

Key survey data from the AIDA survey (Ravnborg et al., 2021) is used to give a short characterisation of the area in which each investment is located. This involves descriptive data on issues such as landlessness, average household land access (hectares), frequency and duration of food insufficiency among households, household poverty levels and their frequency, as well as the frequency with which households hire agricultural labourers and themselves take paid work as agricultural labourers, both in local farms and in commercial farms owned by non-locals.

After the presentation of each of the six cases, an overview is presented in the last chapter which examines intended pathways to intended development outcomes.

INTRODUCTION

Foreign agricultural investments as catalyst for rural development?

This working paper presents short characterisations of six examples of foreign agricultural investments—three in Tanzania and three in Uganda—which involve Danish investments. They were selected from a pool of 96 Danish agricultural investments identified in sub-Saharan Africa, which (i) involve private Danish capital; (ii) engage in primary production; and (iii) have acquired land rights.

Furthermore, they were selected to ensure wide representation of types of investments located within distinct zones, e.g. with respect to agroecological conditions and agrarian structure. At the same time, the case selection was made to allow for cross-country comparisons with respect to factors such as crop type; type of management (farm size, engagement with local population as permanent and/or temporary employees, suppliers, outgrowers, contract farmers, etc.); and the type of financing used (private individual investment, private institutional investment or some sort of blended public and private financing) (see Table 1.1). For a description of the mapping process, see Ravnborg and Broegaard, in preparation. For the purpose of this paper, the names of the investments and specific geographical locations (beyond research location) are not relevant and have consequently been left out.

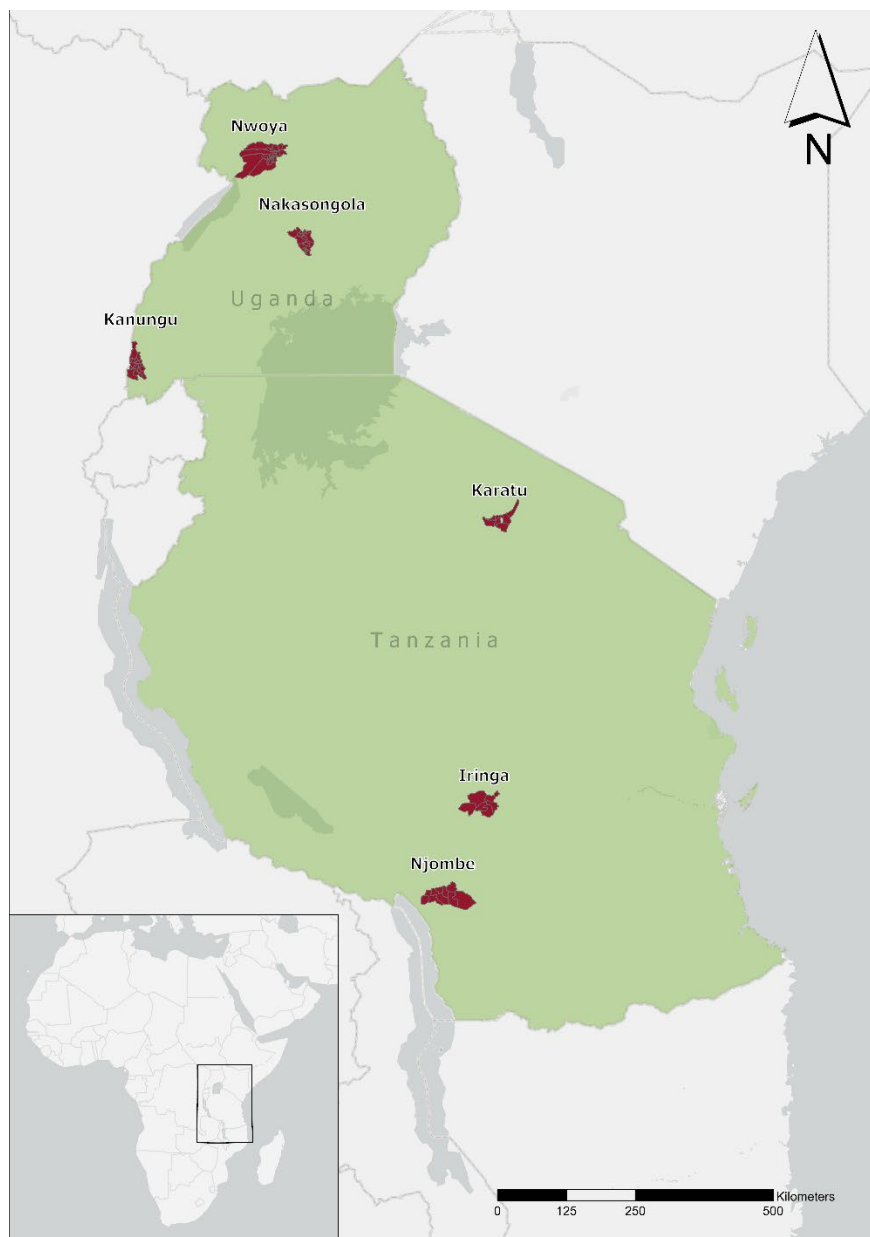
Table 1.1. The six selected cases of Danish agricultural investments

Tanzania	Uganda
Investment I – small-scale flower production, labour intensive, small private company with support from development finance. Njombe research location.	Investment IV – small-scale coffee production, labour intensive, private company with no support from development finance. Kanungu research location.
Investment II – large-scale cereal production, company owned by capital fund supplied with finance from pension schemes as well as development finance. Iringa research location.	Investment V – large-scale cereal production and machine station, private company with support from foreign capital fund. Nwoya research location.
Investment III – large-scale coffee production, private company with temporary loan/finance from development finance institution. Karatu research location.	Investment VI – medium-scale cereal production, run in partnership between Ugandan and Danish owners. Primary crop is maize and operations are primarily self-financed. Nakasongola research location.

Source: Own elaboration.

Finally, it was made sure that each selected investment case was located in an area which also hosts other foreign agricultural investments. This was important as the AIDA programme aims to contribute to an understanding not only of the different positive and negative development outcomes that foreign agricultural investments may lead to, and the pathways of these development outcomes, but also the cumulative effects of the presence of multiple foreign agricultural investments in an area. The AIDA research approach is, in other words, based on geography or territory, rather than case-based. The AIDA programme conducted fieldwork activities in six research locations which were selected and delimited with reference to these six investments (Figure 1.1).

Figure 1.1. The six AIDA research locations



Source: Own elaboration.

This working paper characterises six Danish agricultural investments, one from each of the AIDA research locations. The objective is to gain insights into the

investment types regarding crop, size and business model, as well as types of investors, their investment approach and the factors that motivate them. Importantly, the paper presents the different expressed objectives that the investors aim to achieve. As most of the investments involve private funds, it is reasonable to expect that one important goal is to ensure a viable economy in the investment. However, in addition to an economically sound investment, all of the investors behind these six investment cases have additional ambitions regarding the ways in which they see themselves, through the investment, as contributors towards a positive societal development in the area of the investment. Therefore, the paper also presents the different ways the investors consider that their investments contribute to development in the area they form part of. This may involve job creation or beneficial effects from the specific business model—for example through the provision of markets or storage facilities, a stimulation of (external) demand, or training, and including the use of outgrower schemes. Other development pathways may involve the introduction and spread of new technology or standards, or, as in the cases where hybrid seeds are an important product, beneficial effects originating from the product produced. Finally, development pathways also involve the general stimulation of economic activity in an area, or CSR-related activities through engagement with local communities or actors—beyond what is strictly related to the core business model.

Combined, the characterisations of the six investment cases provide an opportunity to better understand which processes the investors themselves identify when wanting to create (or contribute to) positive development effects from their investments. In the AIDA programme, this has—together with interviews with numerous other key informants ranging from those in the financial sector over development professionals to smallholder farmers, day labourers and local small-scale entrepreneurs—been one of the methodological approaches to identify elements to look for in the survey data from the six AIDA research locations. See Ravnborg et al. (2021) for a detailed description of the questionnaire survey design and sample characterisation.

The remainder of the working paper is structured as follows: First, there is a brief presentation of methods used for the overall mapping of the Danish agricultural investments in sub-Saharan Africa, and the selection of the six cases. The sources on which the case-characterisations are based are briefly introduced (to be further elaborated under each case). For each of the six cases of Danish agricultural investments, the characterisation follows the same format, introducing the investment in terms of three aspects:

1. The investment characteristics (including crop, size and location, investor type and types of finance involved, as well as an investment typology);
2. Investor background and motivation (including success criteria and time frame);
3. The pathways through which the investor intends to create local development effects.

Each chapter also contains a text box with a brief characterisation of the area, including other foreign agricultural investments therein. Data in these text boxes, for example on average salaries of temporary agricultural labour in the area, is based on the AIDA survey and does not relate to the specific foreign agricultural investment case. The working paper ends with a table that sums up the investment types, investment approaches and main intended pathways for positive development outcomes of the six case investments.

METHODS AND BRIEF INTRODUCTION OF THE INVESTMENT LOCATIONS

Methods

The six agricultural investments presented in this working paper have been selected from a pool of 96 identified Danish agricultural investments in sub-Saharan Africa that all meet the following criteria:

- (i) involve private Danish capital, whether solely or in combination with official development assistance (ODA) or other forms of ‘soft’ capital¹
- (ii) engage in primary production—be it in plant production (annual as well as perennial crops, such as coffee, tea, jatropha, etc., whether for food, fodder or fuel) or in animal production (livestock as well as poultry) except for aquaculture; and
- (iii) which imply the acquisition of land rights, e.g. through purchase, lease or rent, either personally or as part of a company, or which imply direct land use control, e.g. through contract farming that obligates land rights holders to conduct their productive activities in a particular way on a permanent or a temporary basis.

The open-ended search and snowballing method used to identify the Danish agricultural investments is further described in Ravnborg and Broegaard (in preparation), whereas the overall research design of the AIDA programme is presented in Ravnborg et al. (2021).

The six cases were selected to ensure wide representation of investments located within distinct zones, e.g. with respect to agroecological conditions and agrarian structure, while at the same time allowing for cross-country comparisons with respect to factors such as the crop type; type of management (farm size, engagement of local population as permanent and/or temporary employees,

¹ The mandate of IFU (Investment Fund for Developing Countries) was expanded with effect from January 1, 2017, enabling IFU to also act as an investment partner in projects with no Danish commercial participation. As our mapping is limited to investments with private Danish participation, this ‘new’ type of investment will, therefore, not be included in the AIDA mapping of Danish agricultural investments.

suppliers, outgrowers, contract farmers, etc.); and the type of financing used (private individual investment, private institutional investment or some sort of blended public and private financing). When the six case-investments were selected, the selection was also informed by the overview of the different types of investors, sources of capital, investment sizes, crops and business models represented in the total mapping of the Danish agricultural investments in sub-Saharan Africa.

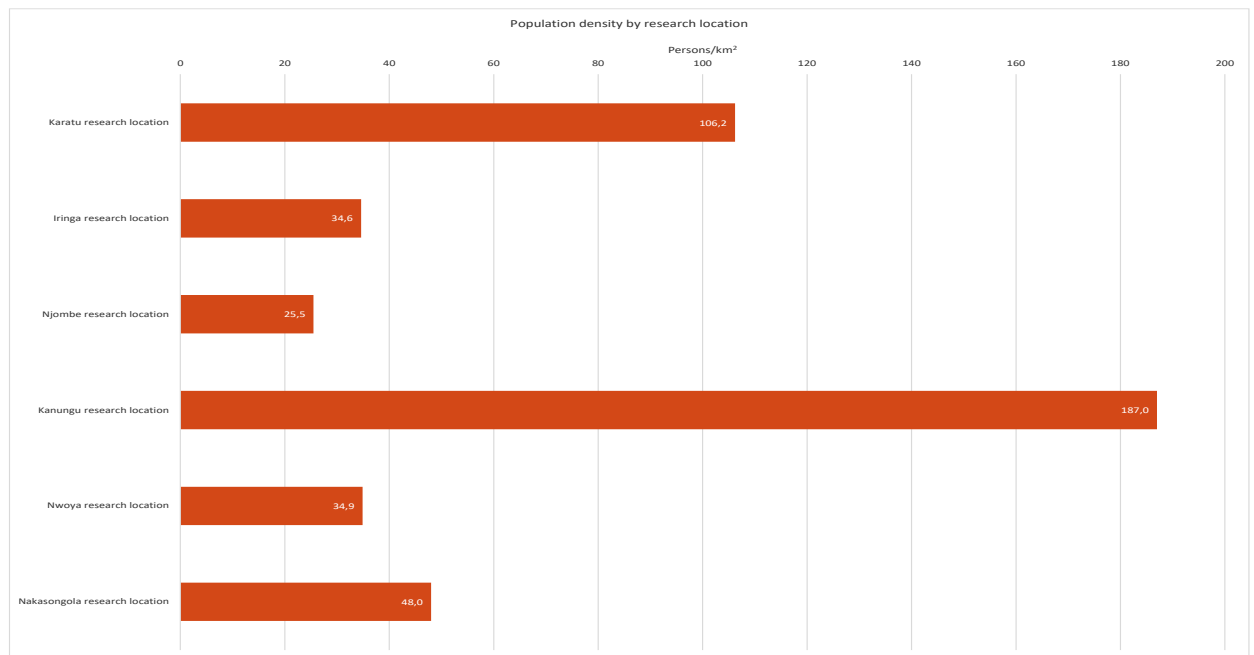
For the presented cases, interviews were conducted with investor(s), representatives of financial institutions, farm managers and other employees, members from nearby communities, as well as representatives of local authorities, whether at village, parish, district or provincial level. The interviews were carried out between 2016 and 2020, with follow-up interviews in spring 2022 with those investors who wished to comment on the draft chapter text after it was shared with them. Interviews were carried out in Danish, English, as well sometimes in Kiswahili or local Ugandan languages. In the latter cases, interviews were translated into English. Interviews were coded in the software Nvivo (version 12) with pre-established and emerging categories. Written sources were searched for and consulted, where possible. For each investment case presented, a text box specifies the types of sources upon which the case characterisation is based. Representatives for each investment received a draft version of the text related to their investment, and five of the six investment representatives responded. Two of them had comments and minor corrections, which have been integrated into the final version of the text.

Key characteristics of the six investment locations

In order to better present the local and national context, in which the investments take place, a few key data are introduced here, thematically by research location. These data include: population density; household poverty levels; landlessness and land access; and frequency and duration of food insufficiency among the local population. Furthermore, a few key variables regarding the frequency with which heads of household hire agricultural labourers or themselves take occasional work as agricultural labourers, whether at neighbouring local farms, or at nearby commercial farms owned by non-local investors. These data are based on a questionnaire survey carried out on six independent samples of adult persons living in the in the research locations. The survey, referred to in this paper as AIDA survey, was carried out during the first half of 2019 and described in detail in Ravnborg et al. (2021). While the elements are included in the characterisation of each research location (text boxes in chapters 3-8), they are presented here, organised by theme, and with all six research locations illustrated in each graph, as this facilitates an easier comparison and overview. It should be highlighted that the survey data present information given by a randomly selected sample of individuals within each research location and thus present an image of the (average) situation in the area, not necessarily on the foreign agricultural investment case that is located in the area.

Figure 2.1 below shows the population density in the six investment or research locations, ranging from sparsely populated areas (Njombe, Iringa and Nwoya research locations) to densely populated areas (in Kanungu and to a lesser extent Karatu research locations).

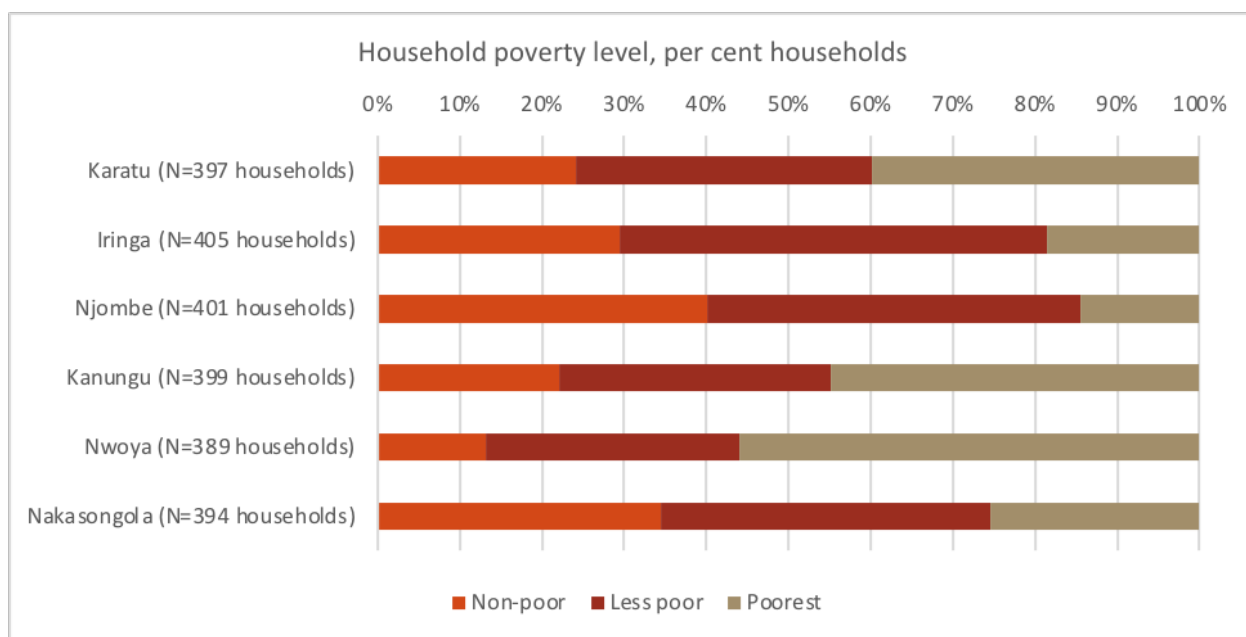
Figure 2.1. Population density by research location



Sources (population data): United Republic of Tanzania (2013) and Uganda Bureau of Statistics (2016).

Poverty is widespread, especially in Nwoya, Kanungu and Karatu, where the households characterised as the 'poorest' according to the AIDA multifaceted poverty measure (see Ravnborg et al., 2021) constitute 56%, 45% and 40% of the total households, respectively (see Figure 2.2).

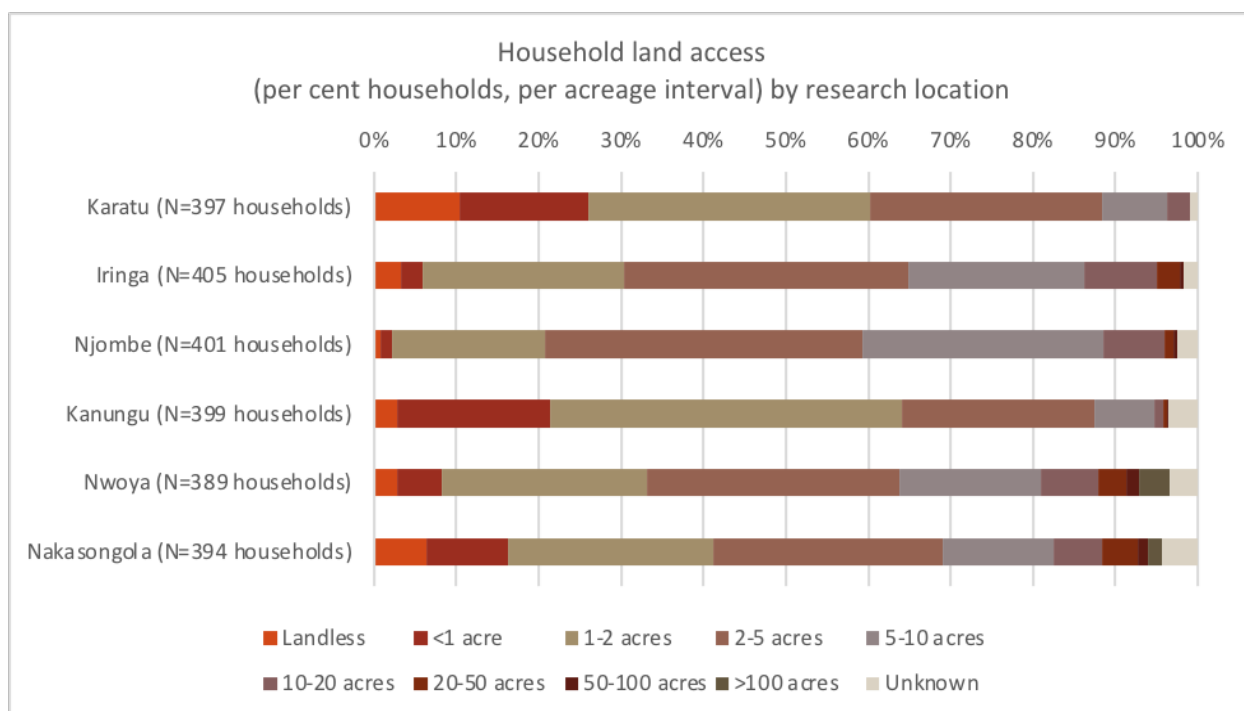
Figure 2.2. Household poverty level by research location



Source: AIDA survey.

There are some areas with high levels of landlessness (up to 10% of households in the Karatu research location) and where a large share of the households has access to only a small amount of land (61.4% and 49.9% of the households have access to less than two acres of land in Kanungu and Karatu, respectively). See Figure 2.3 below.

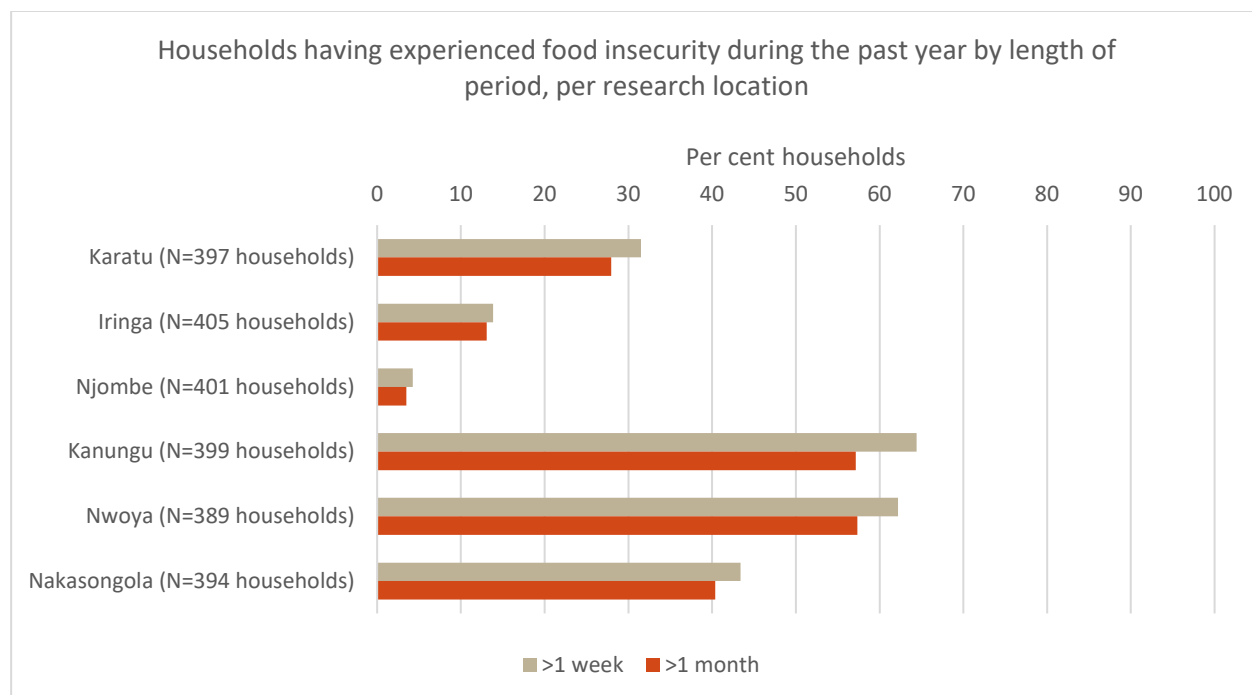
Figure 2.3. Household and land access (per cent households per acreage interval) by research location



Source: AIDA survey.

Food insecurity is especially high in Uganda, where 57% of households in the Kanungu and the Nwoya research locations had endured more than one month of food insufficiency during the past year (see Figure 2.4).

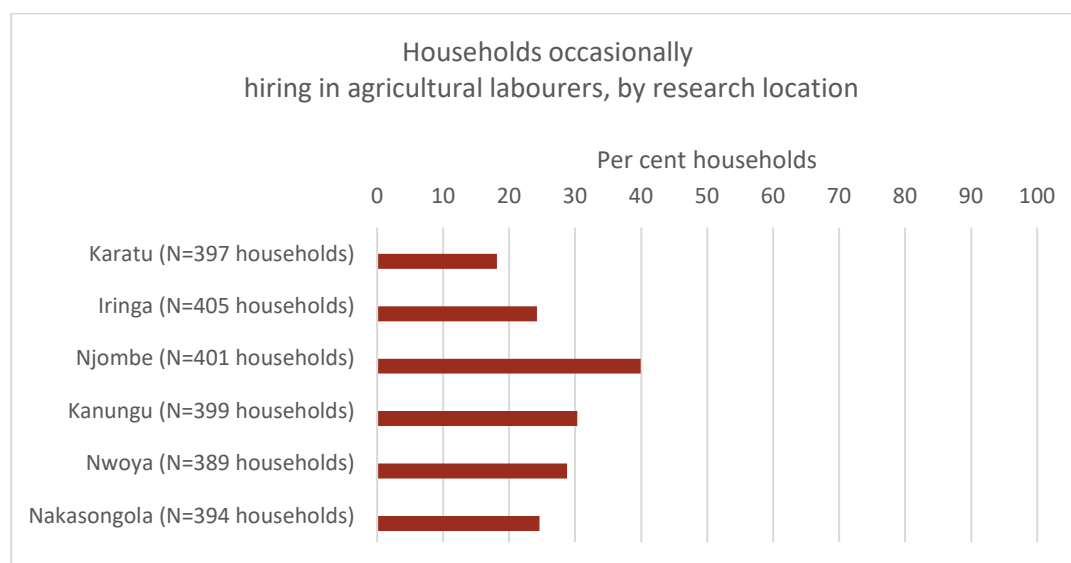
Figure 2.4. Households having experienced food insecurity during the past year by length of period, by research location



Source: AIDA survey.

Not only non-local, commercial farms, but also local farms contribute to agricultural employment creation. In the Njombe research location, close to 40% of the households report to occasionally hire agricultural labourers, whereas this is the case for close to 20% of the households in the Karatu research location (see Figure 2.5).

Figure 2.5. Households occasionally hiring agricultural labourers, by research location



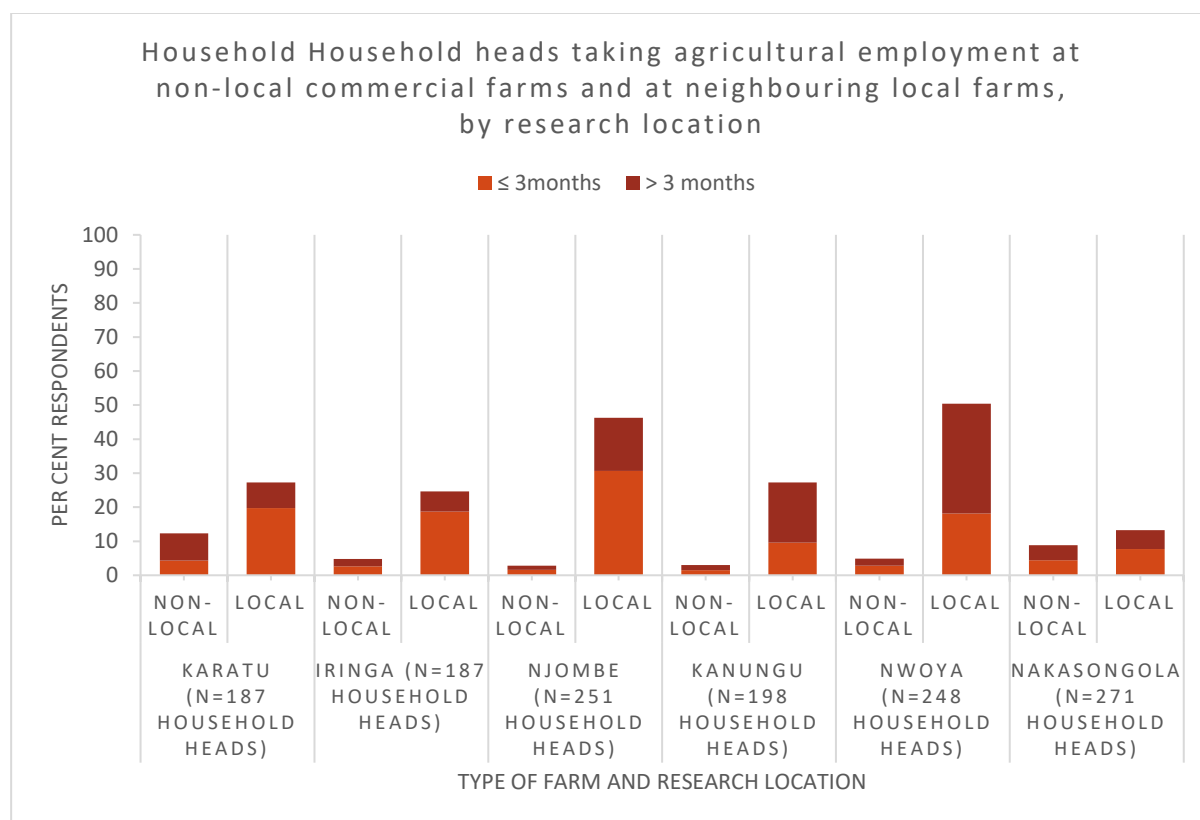
Source: AIDA survey.

While local employment at the local farms is important in all six research locations, its importance is especially pronounced in Nwoya and Njombe. Figure 2.6 shows that in these two research locations, 50% and 46% of households, respectively, report to take employment as day labourers at neighbouring farms on an occasional basis. The figure also shows that in all the six research locations the employment at neighbouring local farms by far overshadows the agricultural employment at non-local commercial farms. This is the case for short-term agricultural employment (less or equal to three months' duration), and long-term agricultural employment, as well as the sum of short- and long-term agricultural employment.

Looking at employment generated at non-local commercial farms in the research locations, considerably fewer household heads report having taken agricultural employment here. Only between 2.8% and 12.3% of the household heads² in the six research locations report to having taken employment with the non-local, commercial farms in their area during the past year. The prevalence of employment at non-local commercial farms is highest in Karatu (12.3% of household heads report taking work in this type of farm) and Nakasongola (8.8% of the household heads report taking work); whereas it is much lower in the other research locations. Only 4.8% of household heads report working in these types of farms in Nwoya and Iringa, and as few as 3.0% and 2.8% in Kanungu and Njombe, respectively.

² Only respondents who are also household heads are included here.

Figure 2.6. Household heads taking agricultural employment at non-local commercial farms and at neighbouring local farms, by research location

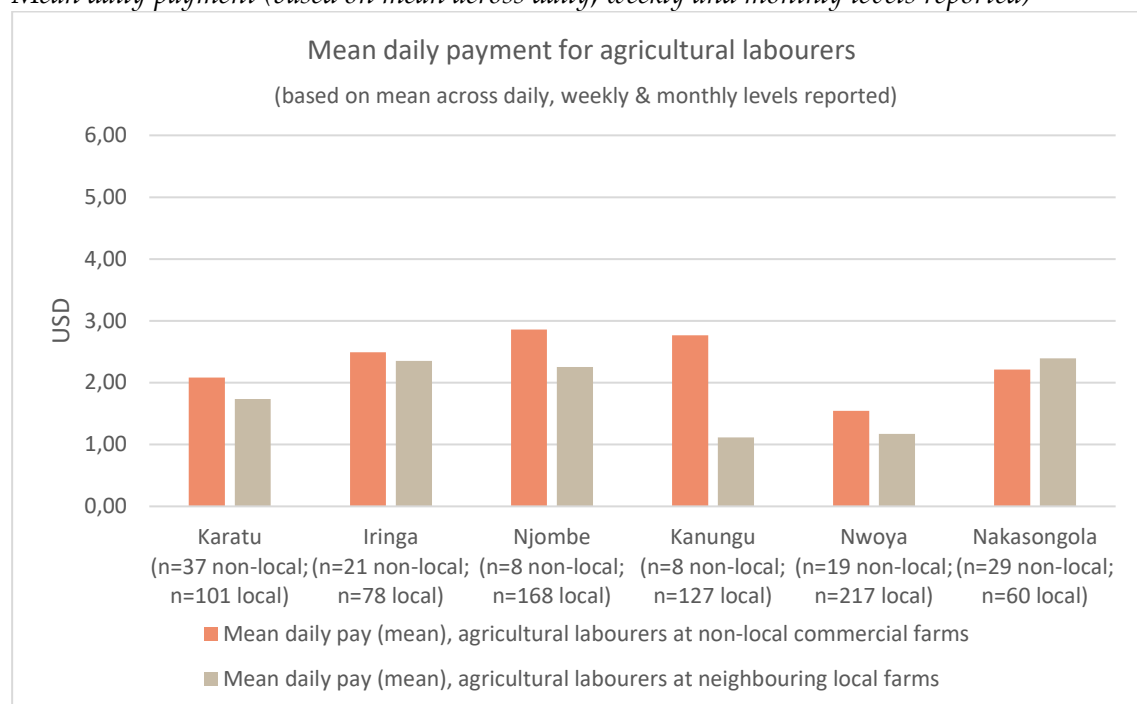


Source: AIDA survey.

The following figure (2.7) shows that the mean daily payments, as reported by employees in the AIDA survey in the different research locations, vary between research locations. In all the research locations, with the exception of Nakasongola, the mean daily payment in non-local, commercial farms exceeds the pay in the local neighbouring farms. Furthermore, Kanungu stands out as the research location with the largest difference between the mean daily pay offered by non-local commercial farms and that offered by the local farms. It should be remembered that salary levels at individual foreign investments may very well deviate from these research location averages.

Figure 2.7. Daily payment reported as received by respondents and household heads taking employment with non-local commercial farms and local neighbouring farms,³ respectively, in USD⁴

Mean daily payment (based on mean across daily, weekly and monthly levels reported)



Source: AIDA survey.

CASE I: MEDIUM-SCALE FLOWER PRODUCTION. PRIVATE INVESTMENT WITH LOAN-BASED DEVELOPMENT FINANCE, NJOMBE, TANZANIA

Investment characteristics

The flower company started in 2005 as a Tanzanian registered company, with a Danish limited shares company as the main shareholder. After a couple of start-up and investment years, production and harvesting of roses took off, both for export

³ Respondents were given the possibility to indicate the payment received either on a daily, a weekly or a monthly basis. The data reported here is based on all respondents indicating a daily pay and respondents indicating a weekly and/or a monthly pay, provided that they indicated to work 4 days or more per week as an agricultural labourer either at non-local commercial farm or with neighbouring local farms. The indicated weekly pay was divided by 5, while the monthly pay was divided by 20 to get the corresponding daily pay. For respondents indicating their payment both at a daily, weekly and/or monthly basis, both the mean and the maximum payment are reported. For respondents who are not themselves heads of household, but who occasionally take employment as day labourers at neighbouring local farms, and who belong to households where also the head of household works as day labourers at neighbouring local farms, the mean and the maximum payments reported are calculated across the payment levels indicated for both respondent and household head. Here, we only present the calculations based on the reported means.

⁴ Payments were reported in Tanzanian Shilling and in Ugandan Shilling, respectively. Exchange rates per April 1, 2019, were used as indicative of the time of conducting the survey: 1 USD = 2,309.1 TSh; 1 USD = 3,692.4 USh.

and for the local market. At this early point in time, the Danish investors collaborated with the owners of a neighbouring flower farm in the production and marketing. Within a relatively short time, the company reached a high production, employing between 150-170 employees. The roses were exported to the Netherlands and South Africa. After some challenging years, with changes in international taste of rose colours, the flower farm changed to production of carnation flowers, which were, furthermore, less input intensive than roses (both with regards to chemicals and fertiliser). At the same time, the focus changed to the domestic market, partly due to infrastructure problems at the farm, and the flower farm no longer collaborated with the neighbouring farm.

The farm is large compared to most farms in the area in the Southern Highlands of Tanzania. Some sources say 200 ha, others say 250 acres (=101 ha), and the greenhouses and flower production take up approximately eight of these (=3.2 ha), with a maximum of 164 greenhouses at the time of the largest extension of the production site. On the rest of the land, the investor has planted pine trees, which are approaching maturity for harvest. Most of the pine plantation belongs to the main Danish investor as a single investment, while part of the plantation belongs to the farm company, which has multiple owners. The investor also constructed a villa on the property and rents it from the company under an agreement for a period of ninety-nine years. As part of the company development, there has been infrastructure built inside the farm including a generator for cooling the cold house and driving the pump for irrigation. The farm has an irrigation system whereby water is pumped up from the small stream at the bottom of the farm. The water comes from two springs that are located on the land leased by the company. The investor has permission to install the pump and another permission to use the water for irrigation, 425 m³/day (0.005 m³/second). As of 2017, they had not yet used that amount.

The ownership of the shares of the new company was somewhat different from that of the first company. Originally, there were three owners, all Danish, with the main investor having majority of shares, roughly three times the number of shares of the other two. In 2014, there was a formal change of companies, where the initial Tanzanian company sold its business licence to another shareholding company, but remained with the land lease. Later, the wife of the original main investor became the formal owner of the large majority of the shares. Additionally, there were two local shareowners, who have formerly both been involved in the company, but had recently resigned. One had been the former farm manager; the other was a district council member.

Investment I is a private investment, led by one Danish investor, who assesses having invested more than 3 million USD over 12 years; however, only 'money that one can afford to lose'. Additionally, the Danish Investment Fund for Developing Countries (IFU) has given a 4.5 million DKK loan to this same company in 2009. The full amount has been disbursed. The IFU portfolio also mentions that 111 jobs were expected to be created, but that in practice, 94 jobs are

reported to have been created.⁵ However, at the time the company was visited, this number had been halved. A website visit in November 2021 still presents the loan as ‘ongoing’ (meaning that the loans had not been fully repaid, or that the company still exists), but also that operations have been discontinued.⁶ Following the IFU’s ESG⁷ categories, the investment is categorised by IFU as a B+ investment, which means that it is classified as having the second highest level of environmental and social risk.

The number of employees had steadily declined from 2014 to 2017, in order to keep costs down. In early 2017, there were about 70 employees, of which 45 were permanent, and 25 were temporary. At the time of the visit to the flower farm late October 2017, the infrastructure was run down. For example, greenhouses leaked when it rained, so flower production had to be discontinued in the rainy season. A large chart in the production hall displayed the flower production each month and each variety, also indicating the fluctuating prices (from 4000 to 2500 TSh at the farm gate), depending on demand, depending on the offers.

Box 1. Sources

This case study is based on interviews with the main investor, interviews with the farm manager and several local staff members during a farm visit in October 2017, interviews of key informants regarding funding, as well as analysis of publicly available information about the company. In the area, interviews were also carried out with village, district and provincial administrative staff.

Box 2. Brief characterisation of the area, including other foreign agricultural investments

The investment is located the Southern Highlands of Tanzania, where the climate is rather cool and the soils are fertile, a combination that has historically attracted European migrants. The Njombe district centre is a town of approximately 40,000 inhabitants, and the area is scarcely populated, with only 25.5 persons/km². The area is part of the Southern Agricultural Growth Corridor of Tanzania (SAGCOT), a public/private partnership developed in 2010 to attract investments to rapidly develop the agricultural potential in order to reduce rural poverty, improve food security and ensure environmental sustainability (USAID, 2016). There are several large-scale tea plantations in the area, several of them run by multinational companies. Furthermore, there has been an agglomeration of flower-producing farms, with foreign as well as national, non-local investment. Most of these properties have been allocated to non-villagers since WWII or even before. For most investments, the property boundaries have thus been stable for many

⁵ According to the IFU definitions, the actual direct employment shown for the active project is the actual total number of persons—full-time equivalent (FTE)—employed directly in the project companies, including subsidiaries, as reported to IFU by the project company.

⁶ <https://www.ifu.dk/en/Investments/>, accessed November 29, 2021

⁷ ESG stands for Environment, Social and Governance.

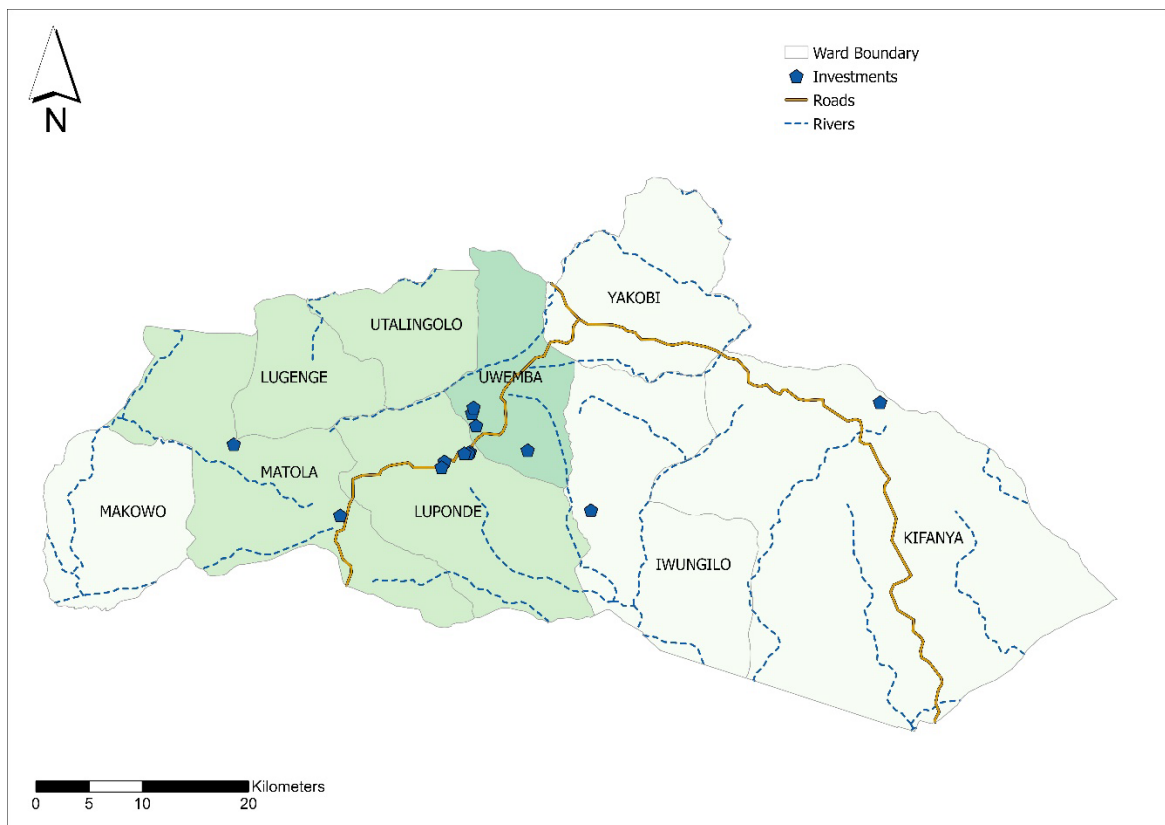
decades. There are disputes about boundaries, especially around one large-scale estate, which is (re?) claiming an area that has had local land users until recently. Both tea and flower production require much manual labour.

According to the AIDA survey among 399 individuals in the area, it is a relatively non-poor population (see Figure 2.2 above), where 40% of the households are characterised as non-poor, with 45% being less poor and only 15% being characterised as poor. Njombe is also the one of the six AIDA research locations with the lowest proportion of households who experience food insecurity (less than 4% of the households experience more than one month of food insecurity in a year). Similarly, there is not much landlessness in Njombe. According to the AIDA survey, only 0.7% of the households are landless. One and a half per cent have access to less than one acre of land, but 18% have up to two acres, and 39% of the households have between two and five acres of land. As many as 29% of the households have between five and ten acres of land (N=401, see Figure 2.3 above). The cultivation of potatoes is especially attractive, and there is also considerable small-scale production of fruits and vegetables, including avocados.

Forty per cent of households in Njombe occasionally hire agricultural labourers to help on their farms. This is the highest level in the six AIDA research locations. Njombe can be characterised as an active agricultural area, with many small-scale farms, which generate important employment. Close to half of the household heads take (occasional) farm work at neighbouring farms. Just under a third (30.7%) does so less than three months in a year, whereas 15.5% does so more than three months in a year. However, the employment created in the commercial farms owned by non-locals is very small in comparison, with less than 3% of household heads taking agricultural employment in these types of farms (1.6% for less than three months in a year, and 1.2% for more than three months in a year, respectively) (AIDA survey, N=251 heads of household). The mean daily payment for agricultural labourers (based on a mean across daily, weekly and monthly levels reported) are relatively high in Njombe (compared to the other AIDA research locations), with 2.26 USD/day for farm work at neighbouring farms, and 2.86 USD/day at commercial, non-local farms (N= 168 respondents for local and eight respondents for non-local farms, respectively). This is the highest mean daily payment for agricultural labourers reported across the six AIDA research locations.⁸

⁸ Please observe that the reported research location averages are based on survey responses, and as such the individual foreign agricultural investments may have a different salary level.

Figure 3.1. Map of the Njombe research location, Tanzania



Source: Own elaboration.

Figure 3.2. Carnations growing in textile greenhouses



Photo: Rikke Brandt Broegaard.

Investment typology

Following the investment typology proposed by Gallent et al. (2019),⁹ Investment I can be characterised as being an investment where the main investors have a **direct approach** to investing, in that they are involved themselves in the daily (or weekly) management decisions—not through an asset manager/asset management company. Part of the investment has been financed through a loan provided by IFU to the Danish investor's company, so IFU has not been involved in management decisions as shareholder or the like.

Secondly, the investment can be characterised as having investors with **active approaches to the investment**—meaning that in addition to buying land, the investors are also involved in land use decisions, and have invested in equipment, in buildings, pumps, greenhouses, etc.

Finally, the investment is characterised by having mainly **continued the pre-existing land use**, as the current Danish investor purchased an already established flower production facility. However, there have also been some changes in land use in that the current investor planted tree crops on large parts of the land.

Investor background and motivation

The main investor has, through professional work with accounting, been involved in investments and companies in both Denmark and developing countries for a long time. The investor's childhood friend worked as country director for a development NGO in Tanzania, and in talks with him, the investor developed a desire to invest in the area, in order to create jobs, and possibly contribute part of the (expected) surplus to the local authorities. An important motivating factor behind the investment was the creation of employment and development through business involvement—showing that it could work and enjoying the involvement in making it work.

The investor has only invested money that was considered 'affordable to lose'. The investor is content about the employment created but frustrated about incidents of theft and fraud experienced, particularly during the periods when the investor was not living at the farm. At the time of the interview (2017), the investor is actively engaged in other investments, in addition to this one, and has previously received financial support from both IFU and Danida¹⁰ for business start-up and development, also for other initiatives.

The stated motivation of the investment has to do with the creation of employment in a continent that needs it. However, as a private investment, it is

⁹ The investment typology developed by Gallent et al. (2019) looks at two main elements: Do investors have a direct or indirect approach to investing, and do they have an active or passive approach to the investment? Furthermore, they look at whether the investment has led to a change in land use and/or production system, or whether the land use is continued by the new owners.

¹⁰ Danida is the term—a brand name—used for Denmark's development cooperation. It is an area of activity under the Ministry of Foreign Affairs.

also an implicit success criterion that the business is economically viable, i.e. that it does not, in the long run, make a deficit.

When the investment started, there were some indications that it was expected to have a five- to six-year engagement time frame. However, as things developed, the investor also built a villa, as part of the company, and was looking at a longer engagement. The investor has lived on the farm for approximately four years, while heavily involved in running the company. By 2017, the investor was looking to sell the investment.

Pathways for intended development outcomes

Employment

The investor had a vision of creating jobs through the investment in a business—imagined making a thriving business with flower production, using the cool, yet stable climatic conditions and the fertile lands and access to water and labour offered in the area. The flower farm has indeed been an important employer in the area. At its most productive time, there were between 150 and 170 employees, and 164 greenhouses in operation. At the time of the visit, in October 2017, there were only about five greenhouses in operation with 25 permanent employees and 20 on contract.

Employment is highly appreciated in the area, as there is a shortage of it. There are people on the waiting list for position openings. There was a friendly and calm atmosphere at the workplace on the day of the visit. Salary ranges from 130,000 TSh/month to 900,000 TSh/month. Additionally, there is a bonus for Christmas.

The legal changes in the company have had negative implications for the employees, as far back in 2014, when the first company was closed, and the second company was established. When the first company closed, it cancelled all contracts, and three months' worth of benefits for all employees were consequently not paid out. The investor opened the new company and re-hired a reduced number of staff.

At the production peak, there have been 154 employees, whereas currently there are around 45 employees. If focusing on the entire area owned by the investor (including the parts used more extensively for pine growing and private residential areas), the investment has created 1.52 jobs per hectare at the peak time, and currently 0.45 jobs per hectare. If focusing only on the eight hectares where the flower production takes place, this makes 19.3 jobs created per hectare of flower farm at peak time, and 5.6 jobs per hectare currently.

Other economic effects

The company pays 18% VAT when they purchase things locally. In addition, the company contributes a sales fee of 2% of each sale. As explained by the farm manager, this fee goes to the local town council. When asking the farm manager (in 2017) whether the flower farm makes any difference to the communities surrounding it, he affirms enthusiastically that it makes a lot of difference. The employees, who earn a living at the farm, live in the villages and spend their

money there. Some rent houses or rooms, for example, if they are from other communities or districts. They also may hire parcels of land to grow their own potatoes or maize, to supplement salaries. These are some of the ways in which the flower farm is described to contribute to the development and growth of the community and the area at large.

Capacity building and working conditions

There has been a considerable amount of on-the-job training of staff, administrators and managers. Supervisors have been trained in the responsible use of chemicals and first aid. The workers use uniforms with gloves, masks and boots when they spray. A greenhouse is in quarantine for six to eight hours after spraying. There are supervisors, 'who take care', the farm manager explains. Employees are not covered by health insurance, but if incidents happen, it is the responsibility of the farm to cover the costs of the necessary treatment; also, the company must pay workers' salaries while they are ill, if they have been injured (interview, farm manager).

CSR activities

Whenever the company is asked to contribute to the local community, they contribute 'what they can afford' (interview, main investor). For example, they recently contributed 200,000 Tsh for a new police station. They receive requests from two villages.

Initially, the investor imagined financing a public 'soup kitchen', for example, where people could access food by collecting trash, which the investment could then convert into electricity in a bio-combustion set-up. However, these dreams have never been realised.

CASE II: LARGE-SCALE CEREAL AND SEED PRODUCTION. CAPITAL FUND WITH FINANCE FROM DANISH PENSION SCHEMES AND DEVELOPMENT FINANCE, IRINGA, TANZANIA

Investment characteristics

The large-scale farm in this case is owned by an investment company, which has obtained basket funding from different institutional investors, including the Danish retirement funds and the Danish Investment Fund for Developing Countries (IFU), organised into two (numbered and time-specific) basket funds (I and II).

In this specific case, there are three farms which combined are registered as a single Tanzanian registered subsidiary of the investment company, financed through basket fund I. It is located in a rural part of the Southern Highlands of Tanzania and adjacent to several local communities. The farm, selected as a case for the AIDA programme, covers 1,483 hectares in one geographical area (on four separate title deeds). However, much of the land is not arable, due to its

topography, rivers, swampiness or rocks, leaving the planted areas at 662 hectares. The farms already had large, irrigated areas upon their acquisition by the investment company, in addition to dryland farming. The farm currently produces high value seed crops (including potato seeds), malting barley, maize, soy and potatoes as well as for cattle grazing. The investment has also been used to increase acreage under irrigation, improve infrastructure and mechanisation on the farms, and improve staff conditions, facilities and training.

Initially, it was planned that the farm would produce cereals and protein crops to serve as input in the chicken feed to be used in one of the other investments by the investment company. However, it now mainly focuses on production of improved seeds, which is a crop with a better economic return, and which additionally can have a multiplier effect in the sense that it may lead to higher and more stable yields among a wide range of farmers. This way, the mechanised infrastructure with pivot irrigation, for example, is better used. The farm was purchased from another international agricultural investor (like the other farms in which the investment advisory company is involved in Tanzania); the land was already titled at that time and had already been functioning for decades as large-scale, foreign run farms (some of them with other crops, including flowers). As such, no local communities or local landowners were affected by the current investors' purchase of the farm(s).

The investment started in 2014 and is planned to have a ten-year duration, after which the created value will be realised through sale, and profits shared among the investors. The capital fund managers highlight the defined duration period as a criterion that guarantees that the investment is [economically] sustainable, i.e. that after those ten years, they will have to have established a business model that is profitable and thus sellable (interview, portfolio manager for Danish pension fund and representatives for investment advisory company, May 2, 2017).

The basket fund is managed by a capital fund managing company, based in the UK and in Africa, which specialises in managing African agricultural funds. Its objectives are to 'achieve a positive long-term social, environmental and climate impact whilst making attractive returns for investors', i.e. impact investment. The strategy of the capital fund managing company is to invest across the agricultural value chain, including primary production (including of seeds), storage, processing and trading. This case presentation focuses on one specific farm in the Southern Highlands of Tanzania (which is part of a larger agglomeration of farms where production, inputs, storage, processing and marketing is coordinated), although the capital fund managing company manages additional investments, from this and a second basket fund investment, in other parts of Tanzania as well as in seven other countries in Southern and East Africa. While the capital fund managing company provides its own calculus for several development outcomes of its investments, it is generally at the level of for the two basket funds combined.

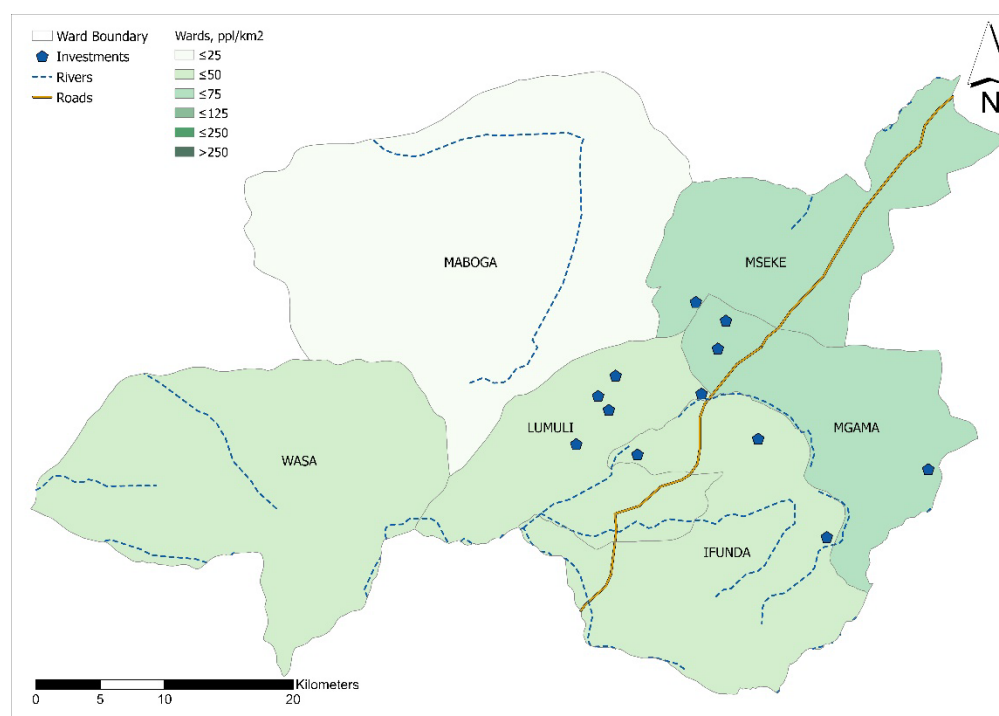
The nationally registered subsidiary in Tanzania has altogether invested an estimated 53.5 million USD, covering the farm, which is here called Investment II, in addition to investments in three other sites in Tanzania.

There are multiple sources of finance behind what is here called Investment II. Around 17% of the funds in the basket comes from development finance institutions (DFIs) like IFU and other governmental investment institutions like British International Investment (formerly Commonwealth Development Corporation (CDC)), FINNFUND (Finnish Fund for Industrial Cooperation Ltd.), etc. Other sources come from institutional investors like pension funds and other private sector investors.¹¹

Box 3. Sources. The case description is based on interviews with some of the Danish institutional investors who have invested in the basket fund, representatives of the investment company, the ESG-responsible from the investment company, farm managers, administrators, investment portfolio managers, as well as workers on the farm and representatives from village, district and regional authorities in the vicinity of the farm. Furthermore, the web has been searched for relevant material describing the investment, both the concrete investment and the total investments in the basket fund, and the investment company. There is extensive reporting on ESG issues, as well as documentation in relation to the World Bank and the granting of investment insurances by the Overseas Private Investment Corporation (OPIC), re-insured by Multilateral Investment Guarantee Agency (MIGA).

¹¹ In addition, the nationally registered subsidiary (in Tanzania) has managed to engage NGO and donor involvement as separate initiatives alongside the investments, to provide support e.g. for micro-credits for seeds and training programmes.

Figure 4.1. Map of the Iringa research location



Source: Own elaboration.

Box 4. Brief characterisation of the area, including other foreign agricultural investments.

The Iringa research location where the investment is located forms part of the SAGCOT, the Southern Agricultural Growth Corridor of Tanzania, an area identified as part of a public/private partnership developed in 2010 to attract investments to rapidly develop the agricultural potential of the area in order to reduce rural poverty, improve food security and ensure environmental sustainability (USAID, 2016).

The Iringa region is well-connected to the capital and other large cities by road. However, to get to Investment II, one must drive approximately five km on a dirt road and cross a river. The farms are about 50 km from the regional capital. The landscape is relatively flat, although surrounded by escarpments, and several rivers and streams flow through the landscape. The climate is cool, due to the high altitude of the area, making it one of the preferred locations for European settlers for generations.

The research location is relatively scarcely populated with 34.6 persons/km², but poverty is a bit more widespread in Iringa than in Njombe, with 19% of the households belonging to the 'poorest' category, and 50% of households being 'less poor', and 30% being classified as 'non-poor' in the AIDA household poverty level characterisation (N=405 households) (See Figure 2.2 above). Food security is quite high, but lower than in Njombe, with 13% of households reporting having

experienced food insecurity for more than one month during the past year (AIDA survey, N=405 households).

According to the AIDA survey, 3.2% of the households are landless, while 2.7% report to have access to less than one acre of land. Close to 25% report to have access to between one and two acres, and almost 35% of the households have access to between two and five acres of land. Just over 21% of the households have between five and ten acres of land (N=405, See Figure 2.3 above). There is much cultivation of vegetables and fruits, as well as grains and cattle.

Twenty-four per cent of households in Iringa occasionally hire agricultural labourers to help on their farms. The many small-scale farms in Iringa thus generate important employment. A quarter of the household heads in the area take (occasional) farm work at neighbouring farms. Nineteen per cent does so less than three months in a year, whereas 6% does so more than three months in a year. The employment created in the commercial farms owned by non-locals is very small in comparison, with less than 5% of household heads taking agricultural employment in these types of farms (2.7% for less than three months in a year, and 2.1% for more than three months in a year, respectively) (AIDA survey, N=187 heads of household).

While the mean daily payment for agricultural labourers (based on a mean across daily, weekly and monthly levels reported) is higher at local farms in Iringa than in Njombe, it is marginally lower than the mean daily pay reported by respondents taking employment at non-locally owned commercial farms in the area, according to the AIDA survey. The mean daily pay for agricultural labourers in local farms in Iringa is 2.35 USD/day, and 2.49 USD/day at commercial, non-local farms (N= 78 respondents for local and 21 respondents for non-local farms, respectively).¹²

Investment typology

Following the investment typology proposed by Gallent et al. (2019), Investment II can be characterised as an investment where **investors have an indirect approach** to the investment, in that they invest through an investment advisor or asset manager, who advises the investors on the investment and handles the practical implementation of it. The actual investors are only indirectly involved in the management of the investment, though they participate in an investment-committee, where they can voice recommendations to the basket fund.

In the case Investment II, the investment company and the capital fund handling the basket funding have a direct approach to the investment—but as investor advisors and managers, not as owners.¹³ The farm is, thus, a case of an indirect investor investment approach, and an **active involvement of the investment**

¹² Please observe that the reported research location averages are based on survey responses, and as such the individual foreign agricultural investments may have a different salary level. The salaries for casual labourers reported here may deviate from the payment for casual labourers at Investment II.

¹³ However, in other cases, in other countries in sub-Saharan Africa, the fund is invested through other companies.

advisor company, meaning that in addition to selecting the land for purchase (investment), the investment advisory company is directly involved in the activities to improve the land and invest in equipment, infrastructure, buildings, irrigation, etc.¹⁴

Finally, the farm in Investment II is characterised by having **continued the land use** of the previous owners, in the sense that before the current investors' investment, there was already large-scale agriculture, and some of the infrastructure, such as most of the irrigation, was in place. At the farm, there are current plans to put an area of 117 ha, currently used for dry-land farming, under irrigation.

Investor background and motivation

The objectives of the basket fund investments are to 'achieve a positive long-term social, environmental and climate impact whilst making attractive returns for investors', i.e. an impact investment (investment advice company website, visited October 7, 2021). The strategy of the investment advisory company is to invest across the agricultural value chain, including primary production (including of seeds), storage, processing and trading. According to the investment managers (interview, May 2, 2017), they work to improve lives of small-scale farmers. There is a high risk in these investments in agriculture, so there is a need for long-term capital. The pension funds and development finance institutions, as well as the partnerships with NGOs and bilateral government donor agencies, are keys that unlock this dilemma. The investment advice company has personnel on the ground, locally, with sector-specific knowledge and experience, as well as professional legal, finance and ESG teams.

While this case presentation focuses on one specific farm in the Southern Highlands of Tanzania, the investment advisory company operates—through basket funds I and II—investments in other parts of Tanzania, as well as in seven other countries in Southern and Eastern Africa.

An implicit success criterion is that the investments create both a reasonable economic return on the investment to its investors, while at the same time creating positive development impacts. The expected return on the investment is quite high, in the 'low-mid teens', according to an interview with representatives of a Danish pension fund and the investment advisory company, May 2, 2017). This is regarded as necessary since only with relatively high internal rates of return will investors continue. All the investors have a long-term perspective. The responsibility aspect is an important parameter on which pension funds compete. Seen from the point of view of one of the Danish pension funds' Responsible Investment Analyst (interview, October 28, 2016), the impact investment characteristics of this investment (Basket I) is what makes it attractive to invest in. Moreover, the given reason to invest through a basket fund was that agricultural

¹⁴ An alternative to this could be to sublet the land to long-term tenants, and passively leave them to make the decisions regarding land management and possible land development.

investments in general, and agricultural impact investments in particular, require sector-specific competences; something that a Danish pension fund does not necessarily have themselves. Thus, investing through a fund and with a highly qualified manager compensates for this and enables such investments.

For the investment managing company, the vision is one of an agricultural sector in economic growth and development in Africa, through 'fixing' what is perceived to be the missing links in the agricultural value chain, and thereby benefitting not only the investment project, but also surrounding farmers in the area. For example, the investment project has the economic muscles to establish large-scale storage facilities, and to produce and provide high-quality inputs in terms of seeds (for agriculture) or chicken feed (for poultry production; located at another farm which also forms part of the investment conglomerate). This is argued to increase yields, thereby reducing the need to clear (more) land. It creates direct jobs, training, multiplier effects in terms of increased flow of money, and collaboration with NGOs and GOs that provide training, loans, extension service, etc.

One of the interviewed representatives of the investment managing company, who has grown up in Africa and is now a London-based investor, explains the motivation to make a difference in people's lives, in Africa, in smallholders' lives: "To ensure more food for people; ensure more inputs to improve production; prevent those terrible food shortages." In this view, it is important not just to look at the returns of the investments (which is of course a requirement in order to have investors keep investing), but also to look at the real impact, the impact on people's lives. (Interview, May 2nd, 2017).

Pathways for intended development outcomes of investment

The intended positive development impacts from Investment II, as presented by the investor representatives, are multipronged and include: direct employment; beneficial effects of the selected business model, such as market provision or stimulation of demand, or the creation of storage facilities (although at different farms run by the investment advisory company); and the effects obtained by the users of the products, such as improved seeds.

Investment II stands out among the characterised foreign investments due to the high level of reporting on environmental, social and governance issues. The ESG team has gone into great detail in its evaluation of the impacts of the company's investments and activities on the local (and national) setting through its annual ESG reports. The importance given to the ESG reporting and assessment of the developmental impacts by the investor is closely related to the characteristics of the investors to the basket fund, which are investors who specifically seek and then describe themselves as impact investors'.¹⁵

¹⁵ However, this reporting is at the level of the involvement of the capital investment advisory company, i.e. across eight African countries. Therefore, it is difficult to use the specific numbers presented in the ESG-reporting for obtained development effects of one specific farm. Consequently, this section presents

The investment advisory company has developed its own standards for 'responsible investment', based on the IFC performance standards from the World Bank and the UN Principles for Responsible Investment in Farmland.¹⁶ The ESG integration (as well as ESG reporting) is required by investors, both to comply with their own investment policies and internationally agreed investment principles, as well as to facilitate communication with their membership and customers and the general public.

Job creation

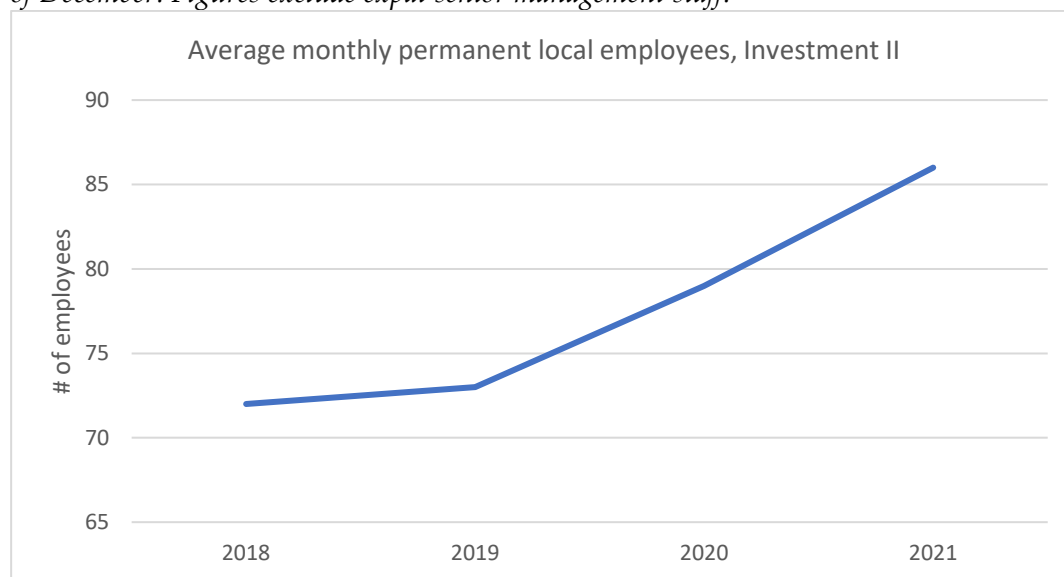
Direct employment, i.e. jobs created on the investment, is the first 'local impact' mentioned in the Investment advisory company's annual ESG report.¹⁷ Focusing on the farm, here called Investment II, the total permanent staff has increased over the years, from 75 persons (including three senior management staff and consultants) in 2018 to 86 permanent employees in 2021. Figure 4.2 below pictures the number of *local* employees in permanent positions, as yearly averages based on monthly data. Thus, the expat senior management staff is excluded from the numbers below, although they live in the area. The permanent employment generation is steady, showing only limited variations from month to month over the year.

(part of) the assessment made by the investor representatives, when calculating (intended) development effects.

¹⁶ <https://www.unpri.org/download?ac=4001>

¹⁷ In the ESG reporting, the investor advisory company calculates the number of employees at the investments combined. For the nationally registered daughter company of the investment advice company, covering two investment sites in Iringa, Tanzania, and one in Kenya, they report having created 690 new jobs.

Figure 4.2. Average monthly permanent local employees of Investment II
Year averages based on monthly data, except for 2018, where data only contains the month of December. Figures exclude expat senior management staff.



Source: Own elaboration based on company data.

In addition to the permanent employees, Investment II also creates a lot of employment for casual labourers. The number of temporary staff fluctuates a lot more throughout the year, as well as between years, than do the number of permanent employees, as is visible in Figure 4.3 below.

Figure 4.3. Number of temporary contract staff, monthly data, from December 2018 to March 2022, Investment II

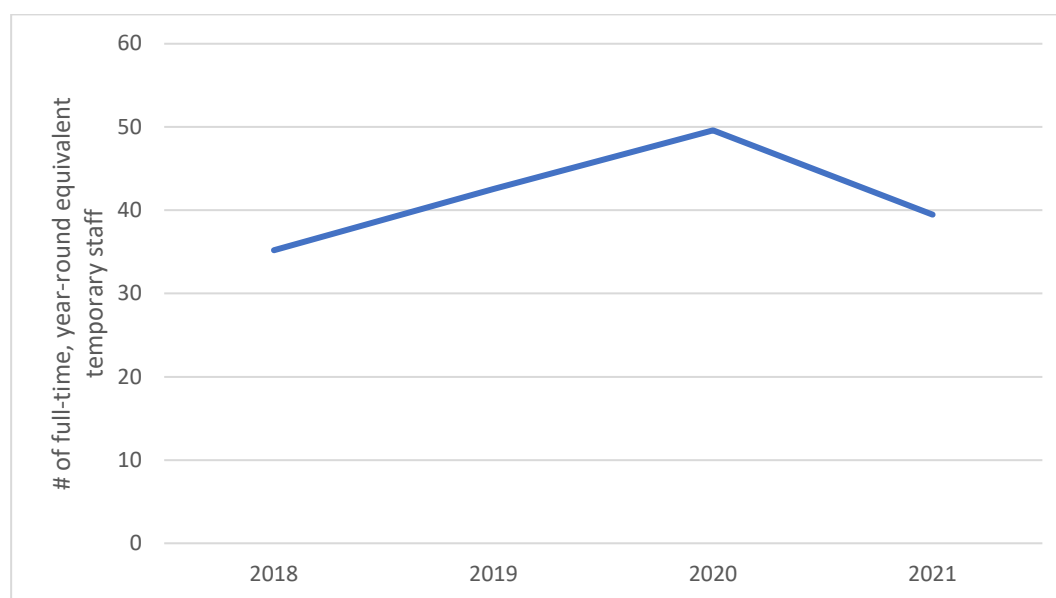


Source: Own elaboration based on company data.

The yearly averages also fluctuate, with a total of 213 temporary employees per month in 2019 (ranging from 126 persons to 274 persons in the busiest month), 248 temporary employees per month on average over the year of 2020 (ranging from 119 persons to 278 in the busiest month), and an average over the year of 2021 of 197 temporary employees per month, ranging from 146 persons in the least active month, to 236 in the most active month).

Unfortunately, data on the duration of work engagement of each temporary staff was not available, making it difficult to calculate the number of full-time, year-round equivalent employment based on the data. However, in order to make a rough estimate of the employment generated, thus translating temporary employment into a full-time employment equivalent, information from the AIDA survey was used. From the AIDA survey conducted in the Iringa research location, we know that people who take temporary employment in non-local commercial farms, tend to do so between two and four days a week, and only during part of the year. Assuming that temporary employees on average work three days a week for a duration of four months during the year, the temporary employment generated at Investment II corresponds to between 35 and 50 full-time, year-round equivalents. The average for the four years is 42 full-time, year-round equivalents.

Figure 4.4. Development in number of full-time, year-round equivalents based on a number of assumptions regarding duration of working periods of temporary employees, 2018-2021



Source: Own elaboration (and assumptions) based on company data.

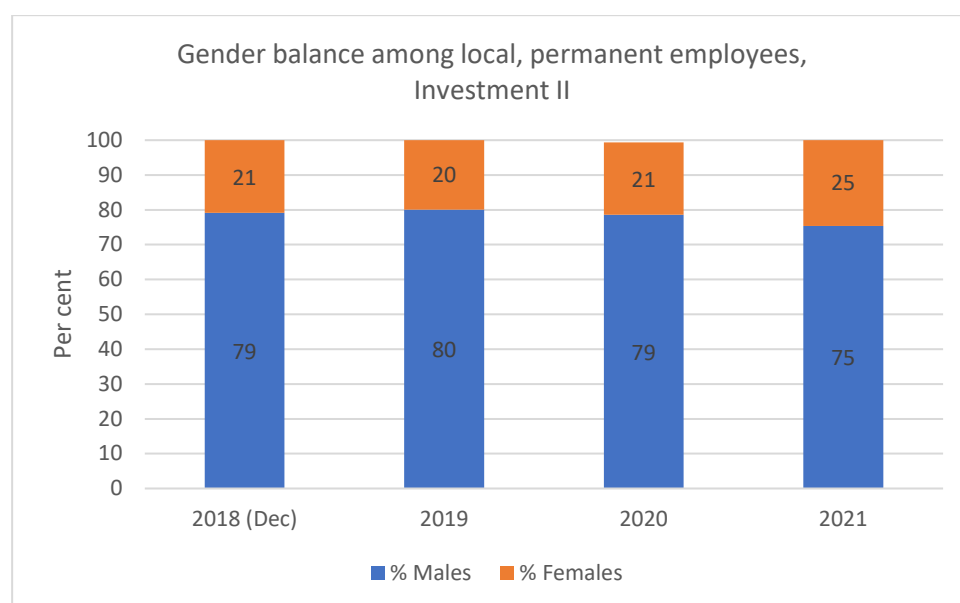
Looking at the data for 2018, and taking into account that Investment II covers 1,483 hectares, and created a total of 75 permanent jobs (including the three senior management positions) and (estimated) 35 full-time, year-round equivalents through temporary employment, Investment II generated 0.07 jobs per hectare of land in the investment or used 13.5 hectares of land to sustain one job. Taking into

consideration that the cultivated area of Investment II is 662 hectares, Investment II generated 0.17 jobs per hectare cultivated land, or used 6.02 hectares of land to sustain one job. The total number of people benefitting through employment at some point in time during 2018 was more than twice the number of full-time job equivalents, resulting in 0.38 (temporary or permanent) employees per cultivated hectare in 2018. In 2021, the employment generation had increased, so figures were 0.08 jobs per hectare of land in the investment, or just under 12 hectares of land per (full-time, year-round equivalent) job sustained. Looking at the cultivated part of the investment only, the figures were 0.19 jobs per hectare of cultivated land, or 5.3 hectares cultivated land per job sustained. Counting all employees, even temporary or seasonal ones, an average of 0.43 employees benefitted with a job for each cultivated hectare of land in 2021.

Gender balance

Looking at the gender balance, there are noticeable differences between the local permanent staff, and the temporary casual labourers. Looking at the gender balance for the local permanent staff (i.e. excluding the expat senior management positions), there are approximately four male employees for each female, as the figure below shows (Figure 4.5).

Figure 4.5. Gender balance among local, permanent employees of Investment II, 2018-2021



Source: Own elaboration based on company data.

Looking at the gender balance for the temporary, contractual staff, this is almost entirely female employees. During each of the years for which data was obtained,

only 1% of the temporary employees were male, while 99% of the temporary workers were women.¹⁸

Multiplier effects

The investment advisory company assumes a multiplier effect of three indirect employments created for each directly created job—a multiplier effect specific to the agricultural sector in Tanzania (i.e. a measure for the number of direct, indirect, and induced jobs created for every direct job) based on IFC literature review (IFC 2013, p 29).

The investor also calculates the ‘increased salaries’ (total amount spent on salaries by the company, divided by number of employees, compared to average salary for local employment), and an increased flow of money in the local communities through building activities, rentals, spending of salaries, etc. Thus, the investment manager estimates that annual incomes of those influenced by the investment have increased 50% from a pre-investment baseline.¹⁹

From publicly available documents, the investments in three different sites, which include what is here called Investment II, cover 2,892 hectares, and amounts to 53.5 million USD invested.²⁰ According to the ESG report by the investor representative, the nationally registered investment company has created 690 direct jobs. This equals 0.24 jobs per hectare, considering the total investment.

Beneficial effects of the business model

In addition to those benefitting through direct employment, a high number of persons (and households) are reported by the investor advisor company to benefit from the investment through their involvement in outgrower schemes or from market opportunities that the investment has contributed to create. This is a result of the investment’s focus on the strategic creation of value chains, where elements were previously missing, preventing a functioning chain.

Although grain for chicken feed was the initial focus of Investment II, the investors have gradually shifted away from those ordinary grains, which can be produced by and sourced from local farmers in the area (or elsewhere, if cheaper). The strategy of doing local sourcing of input for the poultry feed is one way to increase the local positive economic effect of the investments from basket fund I.²¹

¹⁸ For all the investments of basket fund I combined, it is assessed that 46% of the employees are women (ESG Report, 2020).

¹⁹ Since the time of purchase of all investment sites for basket funds I and II combined, annual salaries spent has increased 1.7-fold, according to the ESG reporting.

²⁰ This adds up to 18,499 USD/ha in investment, or 77,536 USD/job directly created.

²¹ The nationally registered company now buys all their maize for feed from local producers, but since 2020 they stopped buying soy from local producers, as they can import it cheaper from Zambia or India (interview, Feb 12, 2020). An additional reason for sourcing the soy outside of Tanzania is that the company will have to extrude the soy themselves, which they can only do mechanically, while the foreign soy is solvent extruded, which is better for poultry feed. They strive to use a combination of imported, solvent extruded soy and locally produced, mechanically extruded soy (information from investor, March 2022).

The investment advisory company started to work with Agricultural Marketing Cooperative Societies (AMCOS), from 2017/18. The AMCOS are quite well developed in Tanzania. Smallholder farmers can be members of an AMCOS, through which they can get their inputs. In the case of this investment advisory company, there was a coordination between AMCOS, the NGO, Caritas, and the investment advisory company, where the latter provided some improved seeds, while Caritas and the latter provided joint training on how to plant, distances, inputs, when and what and how to harvest and store. The training also included a field day visit to demonstration plots at another investment site of the investor.^{22, 23}

'What's in it for [the investment company]? We help the AMCOS. We are sure to have maize close-by. And we earn on the storage cost (for monitoring, fumigation, etc.). All the grain that they store is insured'. (Investor representative, Feb 12, 2020)

In the case of the conglomerate of investments by the investment advisory company in the area, there is an estimation of 'directly benefitted' people. This estimation includes people having benefitted from NGO initiatives coordinated with the nationally registered investment company, in addition to those who have employment at the investment. This estimated number of people 'directly benefitted' is more than 250 times larger the number of people registered as 'directly employed', according to the ESG 2020 report.

The number of the 'indirectly benefitted' persons, or persons who feel the positive 'secondary impact' of the investment, is also assessed in the ESG report. This number is based on those directly benefitting (either as employees or as outgrowers or participants in NGO training), multiplied by 6, which is an average household size.²⁴

It is clear from the annual ESG reports, as well as from visits to Investment II, that the investor puts a lot of emphasis on training of employees as well as training of small-scale farmers.²⁵ Training of employees includes on-the-job training. This is confirmed by interviews in nearby villages that employees at Investment II learn

²² By 2020, they purchased grains from 17,000 local farmers (and formerly, 9,000 of these produced soybeans).

²³ The investors do not buy directly from individual farmers, as it would entail too many (small and costly) transactions. Therefore, they work with AMCOS, from which they can buy a minimum of about 10 tonnes per transaction. For chicken feed, the company cares about weight, moisture content and possible infestation—all maize varieties are welcome. Often, farmers need money urgently, and may not have money for bags and transport. Through the agreement with the AMCOS, the investor advising company can supply bags and transport, the cost of which is subtracted when they pay the farmers for the received produce. It comes out much cheaper for the farmer, than to lose money to the intermediaries, the investment representatives explain. As something new, AMCOS can place their produce early in the investment advisory company-built silo and get a warehouse receipt (when the price is low). This warehouse receipt may be used to get a loan (from the investment advisory company), until they want to sell their produce, when the price has risen [interview, Feb 12, 2020]. The investors collaborate with AMCOS in several districts, including in Iringa. All AMCOS will have an account, so they can transfer the money to the bank or via MPesa.

²⁴ Furthermore, the average assessed increase in income (differentiated as weighted averages for employees and outgrowers, respectively) is calculated, to assess the 'value added to community'. However, here it is not entirely clear on what assumptions regarding baseline income this is based.

²⁵ In the ESG reports it is not clear, how 'small-scale farmers' are defined, but a company representative clarifies that they consider smallholder farmers to typically crop an area of approximately 1.3 hectares, but with very large regional variations (personal communication, May 2022).

to handle and operate different technologies. It requires some educational level to start with—something that excludes a large proportion of the village population, according to interviews. When people work at the farm, they acquire skills for growing maize seed as well as skills for handling pesticides and fertilisers—not as something that is directly taught to them, but rather because they see it and do it (interview, Feb 12, 2020). According to village representatives interviewed, some of those skills are, however, hard to employ in their own fields, as they would require access to a tractor or other expensive technologies or inputs (interview with village representatives, 20200211). The company ESG representative acknowledges that the women working in the maize seed are unlikely to be able to produce maize seed at home because of technical issues and the need of distance to other crops. However, the ESG representative highlights that they may well be able to apply some of the techniques to *improve* their own seeds (interview, Feb 12, 2020).

Another part of the training activities is handled by NGOs with whom the investment advisory company collaborates, for example, where they guarantee a market for crops introduced by the NGOs (e.g. One Acre Foundation or Caritas). The NGOs organise and carry out the training, often through demonstration plots. Sometimes the investment company participates in the capacity building and offers transportation to a demonstration plot.

Regarding the use of improved seeds, dissemination activities also take place. The seed distribution company offers ‘seed day’s at the investor’s facilities, mainly targeting farmers in the area.

Effects following from the product

Investment II mainly focuses on production of improved seeds, which can have a multiplier effect in the sense that it may lead to higher and more stable yields as well as better quality products among a wider range of farmers. The investor advisory company has engaged itself in potato, soy and sunflower seed production as well. Potato seeds are produced at Investment II, where the company engages in the long process of identifying and registering new varieties, for example blight-resistant varieties, which are subsequently multiplied at Investment II. The registration and multiplication of new varieties is expected to benefit smallholder farmers especially (personal communication, ESG responsible, May 2022), as they will require fewer inputs and achieve higher yields. An ESG report from 2020 mentions that farmer groups (AMCOS) pre-order the blight-resistant potato seeds, and that demand exceeds the seed production (ESG Report 2020, p 25). Generally, the improved seeds are produced as part of the investment, on contract with international seed companies, who sell and distribute the seeds throughout southeast Africa. As such, the investment advisory company does not control who gets to use the improved seeds. However, in the ESG report, they calculate the number of hectares that the produced seeds would cover (from their total investments involving seeds production, from basket funds I and II).

Based on information from the seed companies regarding who buys their seeds and in which quantities, they can calculate approximations regarding how many

farmers benefit, expected yields, etc. Assuming that all the seeds are used by small-scale farmers, who previously did not use hybrid seeds, an estimated 'yield increase' of 60% is assumed (based on non-specified academic research). In economic terms, the ESG report of the investor (2020) estimates that this will make a 221 USD/year increase in average farmer's profit (subtracting the cost of the hybrid seeds), or a 44% increase in income. The numbers for acreage and economic gain from yield increase are multiplied to a 'positive economic effect' through the improved seeds. However, it should be noted that farmers who already used improved seeds, the *additional* yield would not materialise.

Corporate Social Responsibility (CSR)

The representatives of the investment advisory company use a geographical criterion for their social involvement, focusing on those villages that are closest to the investment (i.e. within a 5 km radius of the farm boundaries) in their community involvement or CSR activities. According to the ESG responsible of the company (interview, Feb 14, 2020), for Investment II, this results in three villages, where the company concentrates its engagement, and two additional villages. Examples of community involvement include the finalisation of the building of a dispensary, the repair of a school building and construction of school toilets, or beds and desks for a secondary (boarding) school.²⁶

The company also benefits other villages in the surrounding area, for example, where some of their employees live. Interviewed community members highlighted the support, mainly by two of the foreign agricultural investors in the area, including the one behind Investment II, with regards to construction projects and providing heavy equipment, tractors, etc., for road improvement and maintenance.

As a large enterprise with many employees and a large investment in Iringa, the company representatives also meet regularly with the district commissioner, and go directly there when there are problems to resolve. It happens the other way around as well. Recently, the district commissioner was at the company headquarters to ask for used fertiliser bags in order to construct water-containing walls to deal with the heavy rains. They, of course, help when and where they can. (notes, interview with company representative, Feb 12, 2020).

²⁶ Interviewing company representatives about their collaboration with local communities in the area around Investment II, they indicate that in the past, the company has mainly responded to request from local villages (village governments), at an ad-hoc basis. However, in the future, they want to encourage the villages to formulate a strategy and budget for the most important needs and then submit these as applications to the company. The company representatives see this as a fairer response to each of the villages (interview, Nov 2, 2017). Although the company tries to and has responded positively to village requests, it is beyond the capacity of the company to do all that needs to be done. The company has focused on health and education.

CASE III: LARGE-SCALE COFFEE FARM. PRIVATE INVESTMENT WITH LOAN-BASED DEVELOPMENT FINANCE, KARATU, TANZANIA

Investment characteristics

The farm is 700 hectares, and the main production is coffee, supplemented with minor cattle and cheese production, some avocado production and the renting of guesthouses to tourists. There is also a forest plantation and game corridors, as the farm is situated next to a protected area. The Danish investor acquired a 30-years, renewable lease and a title deed back in 1990. The land is used in the following way: 200 hectares of coffee, 20 hectares of avocado, 100 hectares of grass for cattle and 200 hectares of agricultural land, which is subleased to a neighbour. The remaining land (180 hectares) is used for a forest plantation project including 'game corridors' (two game corridors, one 50 hectares, the other 100 hectares). The coffee area has almost doubled over the last decade or so, and the number of plants per area has increased, partly through pruning techniques and partly with the installation of drip irrigation, which reduces the use of water and makes the uptake of fertiliser more efficient. The coffee produced is exported; it is a specialty coffee, as it is rainforest alliance certified, and is marketed under its own brand. It is also sold in a high-end coffee bar chain. In addition to the coffee plantation, the estate has also become an outgrower of avocado for another company based in the region.

The investor is a farmer with a large farm in Jutland, Denmark. He originally purchased the coffee estate in 1990 together with four other friends. However, when the idea to further develop the farm into a quality coffee estate arose in 2005, the main investor slowly bought out the other four, so that all responsibility and decision-making power rested in one person.

Although the purchase of the estate was not a large expense, the total investment has multiplied since—in relation to the improvement of the coffee production and the management of the estate. The investor had to use the farm in Denmark as collateral for loans taken to finance part of the investments in the coffee estate. The Danish investor spends around two months per year on the coffee estate and is deeply involved in its strategic and operational development.

From 2010-2019, the IFU provided a loan of 10.4 million DKK, generating a total investment of 16.6 million DKK (with the additional funding coming from the Danish investor). The investment was partly used to install drip irrigation, to improve the quality of the coffee and reduce the water consumption, and to increase future yields (by increasing the coffee production area as well as the number of plants per hectare). The loan has been fully repaid.²⁷

²⁷ Earlier IFU data indicated a loan of 7.6 million DKK and the creation of 294 jobs, which is 85 more than expected upon soliciting the loan. The collaboration is between the Tanzanian company and a Danish partner.

Box 5. Sources. The case description is based on interviews with the main investor, a farm visit and interviews with employees and representatives of nearby villages as well as representatives of local government institutions. Furthermore, the web has been searched for relevant material describing the investment.

Box 6. Brief characterisation of the area, including other foreign agricultural investments. The northern part of Tanzania is the most densely populated of the three Tanzanian research locations. It is part of the Tanga or Northern Growth Corridor, designated by the Government of Tanzania to attract foreign direct investment and create economic development. Foreign agricultural investments are coffee plantations, mainly large-scale, which concentrate in the higher altitudes, covering more than 3,500 hectares. However, the foreign ownership of these estates dates back many decades, to the colonial period, even if subsequently passed on to new (foreign) owners. Consequently, these foreign owned estates have not, in recent history, reconfigured or influenced the land ownership or land access in the communities that surround them. Furthermore, there is a large area with irrigation schemes (more than 7,000 hectares), which, in addition to employment, contributes through taxes with 21% of the entire district budget (interview, district planning office, 20200205). Here, a mix of local farmers often work in tandem with non-local, national investors, producing onions and other high-value vegetables. The drier areas with (mainly) rain-fed agriculture, outside of the areas apt for coffee and the irrigated areas, are uninteresting to foreign and non-local agricultural investors (interview, land management office, 20200204). Local farmers are mainly producing food crops for themselves and the local market. The area also has an important tourism economy with many foreign as well as national investors.

There is a high population density with 106.2 persons/km² in the Karatu research location. Poverty is widespread, with 40% of the households being classified as belonging to the poorest households in the AIDA household poverty level categorisation (N=397 households), and 36% being classified as 'less poor', while only 24% of the households fall in the 'non-poor' category. Food insecurity is quite high, the highest among the three Tanzanian research locations, with 28% of the households having experienced more than one month of food insecurity during the past year (N=397 households), or almost eight times higher than in Njombe.

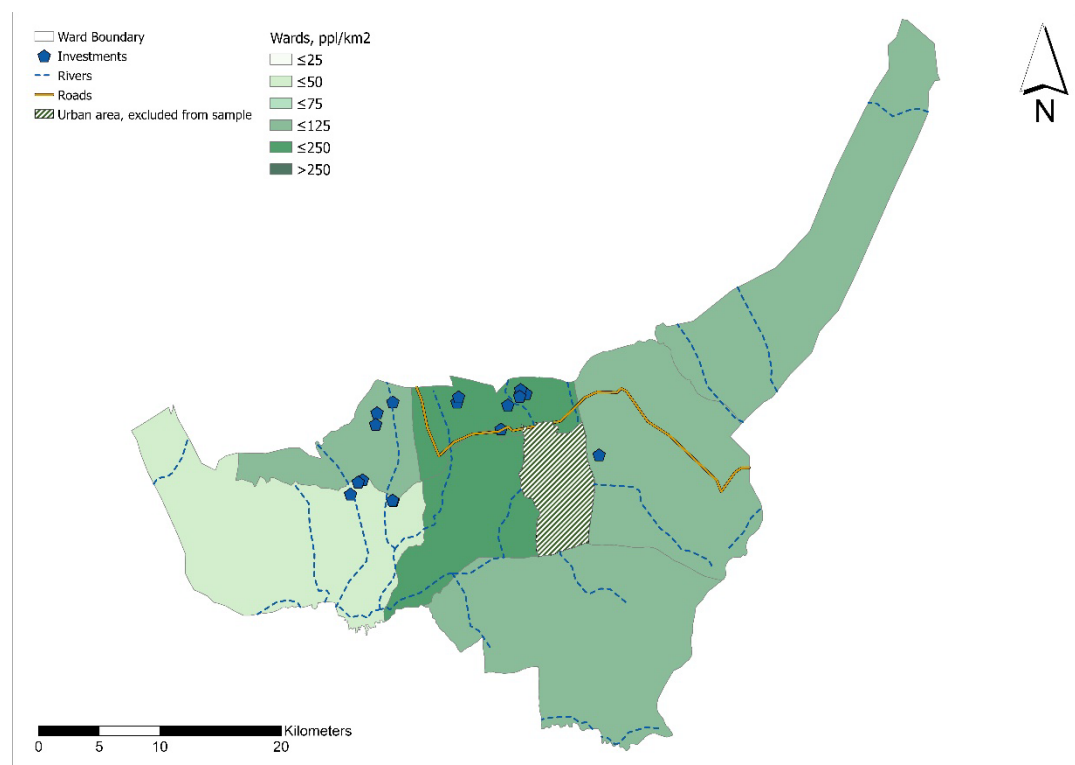
According to the AIDA survey, 10% of the households in the Karatu research area are landless. More than 15% have less than one acre of land, and 34% of the households have only between one and two acres, and 27% of the households have between two and five acres of land. Only 7% of the households have between five and ten acres of land (N=397) (see Figure 2.3 above). The agricultural potential depends greatly on irrigation possibility, due to the dry climate.

Related to the smaller proportion of households with sizeable farms, only a small proportion (18%) of households in the Karatu research area occasionally hire

agricultural labourers to help on their farms. Just over a quarter of the household heads in the Karatu area take (occasional) farm work at neighbouring farms. Twenty per cent does so less than three months in a year, whereas 8% does so more than three months in a year. The employment created in the commercial farms owned by non-locals is larger in the Karatu research area than in the other two research locations in Tanzania (although still smaller than the employment created in local farms). Twelve per cent of household heads take agricultural employment in these types of farms (4.3% for less than three months in a year, and 8% for more than three months in a year, respectively) (AIDA survey, N=187 heads of household).

The mean daily payment for agricultural labourers is higher for workers in the commercial non-local farms than for workers in the locally owned neighbouring farms, according to the AIDA survey. The mean daily pay for agricultural labourers in local farms in Karatu is 1.74 USD/day, and 2.08 USD/day at commercial, non-local farms (N= 101 local and 37 non-local, respectively).²⁸

Figure 5.1. Map of the Karatu research location, Tanzania



Source: Own elaboration.

The investor feels at ease with the land tenure security and at the time of the interview, he expected to be able to renew the land lease agreement. Investors are perceived positively, both by the local population and by the local politicians. The investor makes an effort to take care of the area and contribute to job creation and

²⁸ Please observe that the reported research location averages are based on survey responses, and as such the individual foreign agricultural investments may have a different salary level.

local development. During the past couple of years, the Danish investor has run what is described as an 'anti-corruption programme' on the estate.

There are many new regulations under the new administration (from 2015). To deal with the Tanzania Revenue Authority and the new terms, the Danish investor has hired an international auditing company. The investor has also hired an environmental auditing company to conduct the environmental impact audit of the coffee estate related to the water reservoirs. In addition, there are new laws in other thematic areas, and the Danish investor has hired a new lawyer, in order to ensure compliance with the new labour laws, contracting requirements, immigration issues related to their collaboration with foreign experts, water permits, etc.

Investment typology

Following the investment typology proposed by Gallent et al. (2019) the coffee estate (Investment III) can be characterised as an investment where the investor has a **direct approach** to investing, meaning that in addition to buying land, the investor also is involved in management decisions thereof and further investments in the land; the management is not left to an asset manager/asset management company.

Secondly, the coffee estate investment can be characterised as having an investor with an **active approach to the investment**. The investor is involved, personally, in improving the land and investing in buildings, infrastructure, improving the land use and building the company.

Finally, the investment is characterised by having (mainly) continued the **land use**, as it was already a coffee plantation upon the time of the purchase. However, the Danish investor has also transformed part of the land use, including expanding the coffee plantation area, and innovated the handling of wild game, making large game corridors on the estate.

Investor background and motivation

The estate was already a coffee plantation 90 years ago, owned by Germans. In 1990, the main investor bought it, with four other friends as co-investors, after falling in love with the estate during a tourist safari visit, which left them enthused by the environment and area. The estate was, at that point, old and run-down and did not produce much coffee. However, the location was fantastically beautiful and the wildlife amazing. It was 'love at first sight', a sentimental decision, not a calculated business investment at the time. The investors were motivated by the fantastic wildlife and the challenges for good farming skills, and they simply liked the place and the people. At that time, the estate was a mixed farm, with agriculture, pigs, milk cattle, vegetables, coffee and a safari lodge; so, they began by establishing a Tanzanian company to run the farm. It was not a big original investment, the (now sole) owner tells – 'the price of a large car in Denmark' at that point in time.

The main investor grew up in Asia, characterises his family as ‘international’, and further has a degree in agrarian marketing. The investor is an active farmer with a large farm (with pig and grains production) in southern Denmark. After around 15 years of ‘beauty sleep’ with owners’ infrequent visits and mail correspondence with the farm manager, the investor realised that the coffee was exceptionally good, and developed an ambition of creating a traceable, specialty coffee, which combines caring for nature with the challenges of running the coffee plantation and making a unique brand—one that the investor could identify with. This was professionally challenging and an opportunity to apply the agrarian marketing education. The investor can identify with quality coffee, much more so than with the bulk production of rapeseeds, pork and wheat, produced on the Danish farm. It was the 2005 participation in and winning of the ‘National Taste of Harvest’ competition, a coffee taste competition, that sparked the plans and the incentives to further develop the estate. It coincided with a strong development in specialty coffee globally, and rising coffee prices internationally.

The strategy was to develop the coffee as the core product from the estate. Furthermore, the investor has kept the diverse farm production at a reduced scale. Two hundred hectares of agricultural land are leased out to a neighbour, and milk cattle is downsized to a hobby level. The farm has a small farm-dairy, so it would be a shame to stop the milk production entirely. They also provide milk products to the guesthouses. The estate became one of the first estates in East Africa to deliver coffee to Starbucks. It is part of the marketing strategy to be able to produce quality coffee on an efficient, local coffee plantation, while leaving space for animals and nature. For this, the investor has given up some of the outermost coffee areas (closest to the national park) and has let them return to forest in order to avoid having to fence in the coffee to keep the wild game out of those areas. In the lower areas, the coffee has had to be fenced in. In addition to protecting the coffee, the fence makes the population in the villages safer, as they are less exposed to wild animals.

The investor has a vision of creating the most beautiful and well-run coffee estate in Africa and to produce the best coffee in the world. Social and environmental responsibility are important elements therein, including providing a practical example of how wild game and coffee production can co-exist, if managed cleverly. Another vision for the future is to create a Coffee Education Centre on the estate, in order to contribute to the training of qualified labour in the Tanzanian context. In the eyes of the investor, the Tanzanian future depends on higher quality education at all levels.

An explicit success criterion is that the estate produces good quality coffee in an environmentally and socially responsible way, while generating a return on the investment in the estate. The Danish investor has no exit plans, but rather works continuously to develop the coffee estate, the product quality, the brand, the place brand as well as the positive social and environmental impact of the way the estate is run.

Pathways for intended development outcomes of investment

Job creation

The permanent staff is approximately 30 people, most of whom live in houses on the estate, and a much larger number of temporary and seasonal employees (together, according to IFU, adding up to 255 full-time equivalent jobs, see below). There is a farm manager in charge of the daily management and, among the permanent staff, there is a team of secretaries and other managers, in addition to people working in the production. The Danish investor mentions the feeling of responsibility as a local employer and tries to avoid laying people off. Therefore, while strategically focused on the coffee as the core product of the estate, the investor has retrained the existing employees, through on-the-job training, from cattle herders to workers who can take care of the coffee production.

The temporary employees, also called 'casuals', are mainly employed during harvest (from June to October), as well as during periods of pruning and planting. There can be up to as many as 500 people in the coffee-picking season (temporarily employed). They mainly come from Karatu (town) or the nearby villages. According to the IFU database, the investment made through the private investment and the IFU loan has generated the creation of 255 full-time equivalent jobs.²⁹ These jobs are mainly related to the pruning and maintenance of the coffee plantation, as well as to the coffee picking, and are still offered. Looking at the number of jobs per hectare ratio, Investment III produces 0.36 full-time equivalent jobs per hectare of land owned. If looking at the *number* of jobs created, counting permanent positions, temporary and seasonal jobs, the figure may be higher, 500 temporary jobs/700 ha = 0.71 (temporary) jobs/hectare. There is a union at the estate, 'Tanzania Plantation and Agricultural Workers Union', having a workers' representative.

At peak times, the estate may even experience a shortage of unskilled labour. Partly in response to this, the investor collaborated with several NGOs, including some working with Masai people, and established (beginning in 2014) a camp for female (only) coffee pickers, where between 150 and 300 women come and stay while picking coffee, earning their own salary. The gender-segregated camp offers a more secure and comfortable lodging environment than what is typically offered to temporary coffee pickers. The women mainly come from villages in areas without coffee, and with limited opportunities for earning an extra income. The estate provides accommodation, food, TV, transportation and medical services, if needed. The women are recruited through word of mouth from people who already work or have worked at the estate. In the areas where the women live, there is limited economic activity during the coffee harvest season, so for them, the

²⁹ <https://www.ifu.dk/en/Investments/>, visited November 29, 2021. According to the IFU definitions, the actual direct employment shown for the active project is the actual total number of persons—full-time equivalent (FTE)—employed directly in the project companies, including subsidiaries, as reported to IFU by the project company. Earlier data indicated a total of 294 jobs created (in 2016).

pickers' camp is an opportunity to improve their livelihoods. They stay on the farm for three months (August through October).

The farm manager explains how the women describe having never imagined they would accumulate that kind of money before, and that they feel proud accumulating up to 200,000 TSh (87 USD).³⁰ With the money, they can take care of their old family members, buy food and clothing or they spend it on schooling for their children. Alternatively, they may start a business—for example, small-scale tailoring: buying a sewing machine this year, and maybe starting to tailor next year.

Beneficial effects of the business model

Although coffee production is not new in the area, the involvement of the Danish investor has helped innovate and develop both the product and the production, achieving better productivity, better efficiency and better quality. According to the Danish investor and the farm manager, the estate is a first-mover in the area with elephant-friendly fencing, drip irrigation, rainforest alliance certification and with new forms of shade management, involving different ways of pruning the bushes.

The estate produces 'parchment coffee' which is fermented, washed and dried. It is delivered to a 'dry mill' in the area, which shells the coffee beans, and where they are sorted and cleaned. From here, it is shipped as 'green coffee', worldwide. As it is a specialty coffee, it must be sent via traceable shipments, from five to 100 sacks, called 'micro-lots'. The investor has decided to be involved in the sales of most of the coffee as well. The investor's Danish company purchases the coffee, arranges the shipping to Denmark, where around half of the coffee is roasted and sells directly to stores, web shops, and recently also offered at a Danish ferry, among other places. The other half of the coffee is sold as raw coffee to other roasters, including to an international, high-end coffee bar chain.

The investor's strategy of producing quality coffee that also has a positive social and environmental impact in the area—thereby strengthening the brand of the coffee, as well as that of the place—is something that can inspire other producers in Tanzania. The investor highlights the development impacts for Tanzania by the estate having been instrumental in putting the Tanzanian coffee on the world map for specialty coffee. The investor's marketing efforts target the US especially, which the investor considers the actual centre for specialty coffee.

Being located on the edge of a national park, and due to diminishing forest areas elsewhere, there is heavy pressure from wild animals, like elephants and monkeys, on this and the neighbouring estates. Some estates have fenced in all their coffee to keep out the wild animals. However, as a farmer and someone interested in nature, the Danish investor has chosen to create game corridors and has given up some of the outermost areas for wilding and returning to forest.

³⁰ Payments reported in Tanzania Shilling. Exchange rates per February 28, 2020 (approximate time of the interview), were used: 1 USD=2,299.0 TSh.

Politically, there was initially no support for such a nature responsible approach, but after some years, the neighbours have now started to follow the example.

The Danish investor has chosen to reach out for the Rainforest Alliance certification process, due to agreement with the nature conservation principles in the coffee production. This certification requires, for example, that the water in the coffee berry washing process be reused. The high degree of traceability of the coffee makes it clear, exposed, whether what one does, is ok. This makes other certificate-schemes irrelevant in the eyes of the Danish investor. Consumers are focused on CSR, which the investor already does a lot. Furthermore, there is personal contact with many of the main buyers, so their knowledge of what happens on the farm is very high. Many buyers have a first name relationship with the employees. There is a very high 'feel good' factor. They can see for themselves how things are done. That is their guarantee.

Finally, the tourist lodges that have been established on the estate also generate employment in the area.

Other economic effects

On paydays, a number of ambulant vendors gather outside of the farm gate, awaiting the many people who are paid their biweekly salary. This is a sizeable economic factor in the local community economy. On a day outside of picking season, in February, the total amount paid to workers (for that two-week period) may be 10 million TSh (equivalent to 8,677 USD per month)—divided among 300 workers (230 women and 70 men). In months with higher levels of activity, as much as 28 million TSh may be paid (equivalent to 12,148 USD/month).

As developmental impacts have been on the mind of the Danish investor since the beginning, the company makes a great effort to source products and services locally. Inputs for the daily running of the estate are—if at all possible—sourced from the nearby regional capital. Pickers are from the nearby regions. However, technical expertise is hired from a company from Kenya. According to the investor, there are no comparable services offered in Tanzania. While the investor was the first estate owner in the area to enter into a coffee management contract with a company from Kenya, other estate owners in the area are now doing the same, due to the exceptional lack of qualified personnel in Tanzania.

According to an interview with a high-level civil servant at the district level, the foreign-owned farm are important for the district not only through their tax revenue (which contributes with about 3% of the entire district tax revenue), but most importantly for the employment that they provide (interview, 20200205).

Capacity building

The Danish investor is part of a network of 'fellow coffee farmers' who visit each other for mutual exchange of experiences and inspiration, mainly about growing techniques, but also with respect to processing, marketing, environmental impacts and the like. The Danish investor perceives having inspired fellow coffee producers in the region with the way the coffee is managed on the estate,

especially with respect to contracting a Kenyan company for the technical expertise on the coffee management. Furthermore, the investor collaborates with Sokoine University of Agriculture, in Morogoro, receiving newly educated agriculture academics for some practical training. The investor sees this kind of collaboration with national knowledge institutions very important.

CSR activities

The Danish investor is actively supporting the nearby secondary school through an Education Foundation created by the estate company. It finances schoolbooks and builds more classrooms with sustainable building materials. Furthermore, the investor has been involved in offering Danish and German volunteers as teaching assistants to the school (who receive lodging at the coffee estate). The local school has improved its ranking from 24 of 30 local schools in the district, to number four.

The roads leading to the estate are financed by the investor, but of course also benefit residents on the farm and in the area, as well as visiting tourists.

The coffee estate has a borehole and several streams. Part of the water is used for the coffee plantation and the estate buildings, including tourist lodges, but the remaining part of the water provides safe and clean water for people who live nearby, outside of the estate, through a water tap established in the division between the estate and a nearby village on the southern part of the property, towards the regional capital.

Housing for employees is made within a clean, aesthetically pleasing area and has access to running water and gardens. Plans for day care for infants of employees' families are under development.

Interviews with high-level civil servants at the district level also reflect that the foreign agricultural investors in the area make many 'on spot' contributions towards school repairs and healthcare facilities in the communities closest to the farms.

CASE IV: SMALL-SCALE COFFEE FARM. PRIVATE INVESTMENT, KANUNGU, UGANDA

Investment characteristics

Investment IV is a 13-hectare agroforestry farm bordering a large national park. The farm produces organic coffee while implementing many initiatives to conserve biodiversity both outside and within the national park. It provides an example of a cash crop, needed to try to reduce the threat to local livelihoods that the wild animals represent for those farmers that have land plots adjacent to the park, who are most exposed to experiencing food crop damage by the animals. There are 4000 Arabica coffee trees on the farm, which also has pigs and sheep to

produce of manure for the coffee plants. Farming is organic and pesticides are produced based on natural plants (particularly neem). In addition to the coffee that is produced on Investment IV, the investor also purchases organic coffee from other farmers in the area, thereby offering them a market that includes a considerable price bonus for the organic production. The coffee is exported to Denmark by the investor. In addition to the coffee, the investor purchases organic vanilla from groups of mainly female farmers in different parts of Uganda. The investor has set up a small-scale ecotourism business integrated with the coffee farm and conservation activities.

The farm is located in southwestern Uganda, between 1400 and 1530 m.a.s.l. It is a privately organised initiative, financed primarily through the sale of the investor's private home (and downscaling to a more modest dwelling). Subsequently, the investor obtained additional funds through crowdfunding from a network of friends and family to help finance the first purchase of coffee from outgrowers and transport it to Denmark. The investor has prepared applications for additional funding, such as the Business Sector Programme under Danida to scale up the conservation and livelihood activities. Unfortunately, it has proven very time demanding and not fruitful. Once, the co-applicant's company had to close; in another application (this time to the aBi-Trust in Uganda, which works for local business development), the investor was told that the amount was too small for a trust to enter, i.e. that the amount would have to be larger, for example 5 million DKK.³¹

The founder and main investor is a young professional with a strong interest and involvement in biodiversity and conservation, as well as in community development and entrepreneurship. The investor's brother is partner in the company in Denmark where he helps market the coffee. The investor visits the farm as much as possible—from three to six months at a time—but is limited by costs and family obligations in Denmark. The investor has employed a farm manager that oversees the daily business, but all management decisions, as well as daily communication with the farm manager (via WhatsApp, where all activities on the farm are photo documented), are handled by the investor.

Being motivated by the dual environmental and livelihood challenges in the area, the investor has collaborated with the NGOs 'Organic Denmark' and the Ugandan Organic Farmers Association regarding the training of local farmers in organic and environmentally friendly coffee growing techniques. The original plan was to offer a market for the coffee produced by these farming families (through an outgrower set-up), but it proved much more difficult than anticipated. A couple of years after the training, the investor only purchases coffee from a handful of trusted families.

³¹ This experience points to the built-in systematic gravity towards large activities, a situation that makes organic development of small farms difficult.

Box 7. Sources. This case description is based on interviews with the investor, a farm visit as well as interviews with the farm manager and employees, as well as other investors and coffee producers in the area, representatives of nearby villages and local government institutions. Furthermore, the web has been searched for relevant material describing the investment.

Box 8. Brief characterisation of the area, including other foreign agricultural investments. The area where Investment IV is located has one of the highest population densities in Uganda (198 persons/km² (UBOS, 2017) and is close to the border with the Democratic Republic of Congo. Within the Kanungu research location, there is a population density of 187 persons/km² (Ravnborg et al., 2021). It is a hilly area, with many small rivers and streams, and with mountains as high as 2,607 m.a.s.l. in one of the two important national parks. The presence of the national parks, and the flagship mammals that they host, make tourism an important economic activity in the area, in addition to agriculture. The climate is tropical, with a moderate and well distributed (bimodal) annual rainfall of about 1,200 mm.

According to Byaruhanga (in preparation), who did a total survey of foreign and non-local Ugandan owned agricultural investments in the research location, a total of seven commercial agricultural investments were identified in the research location, two of which were foreign owned, and five commercial agricultural investments with national (non-local) owners. The two foreign owned investments are farms producing coffee only. Three of the non-locally owned farms combine coffee and tea production, while the last two commercial agricultural investments are large-scale, Ugandan owned tea-growing companies.

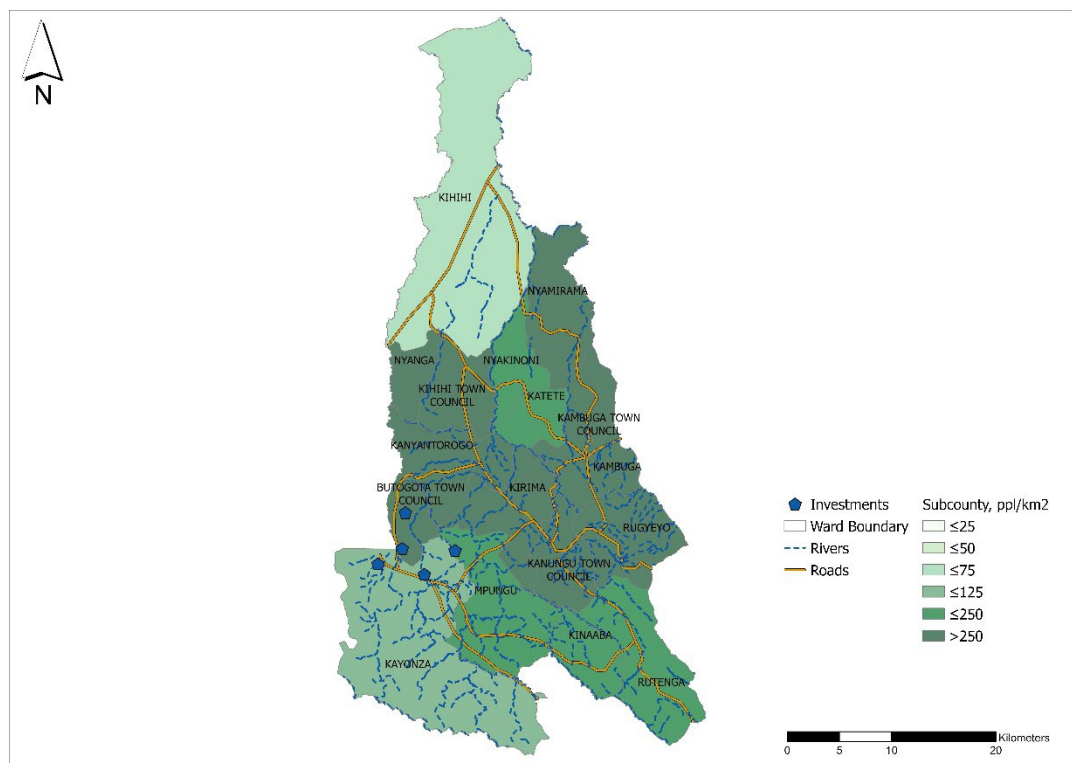
Poverty is widespread. According to a multidimensional household poverty ranking, carried out based on the AIDA survey data, 45% of the households fall in the poorest category, and 33% of the households are in the 'less poor' category, leaving only 22% of the households as 'non-poor' (N=399 households). This is also reflected in a high level of food insecurity in the research location, where as many as 57% of households report having experienced food insecurity for more than one month during the past year.

Land fragmentation is common due to the hilly landscape and the high population density. While relatively few (2.8% of the households) are landless, as many as 18.5% have less than one acre of land, and 43% have only between one and two acres. Close to a quarter of the households, 23%, have between two and five hectares (see Figure 2.3, above). For those households that reported a specific number of acres to which they have access, the average is 2.8 acres/household (N=302). Taking into consideration the number of adults reported per household in Kanungu, this translates into 0.95 adults per acres of land.

Despite of the small plots of land, it is common for the household to hire occasional farm labourers (30% of households do so). Possibly related to the small land parcels, it is quite common for heads of household to take occasional work as

farm labourers among neighbouring farms. Just under 30% of the heads of household report taking occasional farm work at neighbouring local farms; 10% does so up to three months per year, while 18% does so more than three months per year (N=198 heads of household). It is much less common to get agricultural employment at non-local commercial farms. This is only 3% of the heads of household who take employment in the non-local commercial farms, so almost a factor 10 less than for the employment in the local neighbouring farms; 1.5% of heads of household does so up to three months a year, and 1.5% does so more than three months in a year. There is an unusually marked difference in the average daily payment for agricultural labours in the non-local commercial and the local neighbouring farms, respectively. In the non-local, commercial farms, labourers report a mean daily payment of 2.77 USD, whereas the labourers in the local farms report a mean daily payment of 1.11 USD (N= 8 employees in non-local farms, and 127 employees in local farms).³²

Figure 6.1. Map of Kanungu research location, Uganda



Source: Own elaboration.

³² The reported research location averages are based on survey responses, and as such do not necessarily reflect the salary levels at the individual foreign agricultural investments.

Investment typology

Following the investment typology proposed by Gallent et al. (2019) Investment IV can be characterised as an investment where the investor has a **direct approach** to investing, meaning that in addition to buying the land use rights (buying from local owners, and then obtaining a long-term lease agreement with the government of Uganda), the investor also improves the land and invests in equipment, in (modest) buildings, etc. The investor is involved directly, not through an asset manager/asset management company.

Secondly, Investment IV can be characterised as having an investor with an **active approach to the investment**—meaning that the purpose of the investment in land ownership (long-term land lease) is with a purpose of obtaining a number of objectives through this. It is not a passive approach, where the ownership in itself is sufficient for an investor, who for example is motivated by receiving tenant fees or is waiting for the property value to appreciate. In the case of Investment IV, the active approach to the investment is expressed through the active engagement in biodiversity conservation and the establishment of Investment IV as a ‘model farm’, something to inspire the neighbours in the area. It is consciously made with relatively little capital investment, so that it is not entirely out of reach for neighbouring coffee producers. The founder, and main investor, makes all investment and operational decisions. The active engagement is also seen through the collaboration with NGOs like the Organic Farmers Association in Uganda, with whom training course on organic and higher quality coffee production for local farmers are organised and imparted. In addition, the investor is actively involved in formulating and applying for funding for projects that would enlarge the scope of the coffee and conservation integration and involve many more farmers in the area.

Finally, Investment IV is characterised by having **transformed land use**, from extensive agriculture (which locally includes crops such as maize, groundnuts, cassava, plantains, sweet potatoes, tomatoes, onions, and tea) to an organic agroforestry farm which produces mainly coffee and is organised as a ‘buffer zone’ of crops, which the nearby wild animals are not interested in eating, so as to keep them away from the local farmers’ crops further way. The initiative also involves different soil-improving initiatives, experiments with natural pesticides, etc.

Figure 6.2. Coffee bush at Investment IV



Photo: Rikke Brandt Broegaard.

Investor background and motivation

Investment IV was motivated by a combined concern for biodiversity preservation and local livelihood improvement. Finalising a degree in biology, the investor did an internship with an environmental NGO in Uganda in 2007, working on the challenge of preserving biodiversity in the national park in ways such that the increasing number of wildlife did not put an increasing burden on the local farmers and their livelihoods, for example through the foraging of wildlife in the farmers' fields. The goal of the investment is to inspire local farmers to establish agroforestry production of coffee, and small livestock, (company website, visited November 2021). The farm was originally established (beginning in 2008) to provide a practical example of concrete and low-tech, low-input ways of dealing with the biodiversity preservation and local livelihood challenge, creating synergy. It avoids chemical fertilisers, pesticides and herbicides.

An explicit success criterion is to be able to establish an agroforestry production that combines the environmentally and especially biodiversity friendly production of cash crops with an economically viable business. The economic viability of the investment is a sine qua non for the relevance of this 'model farm' or practical example to inspire local farmers—for the investor, the ambition is at least to break even.

An implicit success criterion is to inspire other actors in the area to use more environmentally friendly (and livelihood improving) production forms. This may be through the organisation and elaboration of training courses on organic coffee production and quality improvement methods, or it may be through presentations of farming methods at Investment IV to interested local farmers. While Investment IV also creates a number of jobs for people in the area, job creation is a secondary success of the investment. The investor is mainly hoping to inspire (small-scale) landowners in the area, especially immediately adjacent to the National Park, to begin or increase organically grown coffee plants in their area, and to increase the

use of a crop that is not likely to be damaged by wildlife, in order to ‘dissolve’ the existing conflict between wildlife and local farmers, when the wild animals affect the local food crops. Said differently, the ambition of the investor is to develop an example of agroforestry that helps preserve biodiversity while also improving local livelihoods—in practice.

Investment IV is a long-term investment by the investor. There is no exit plan for the investment. While the current land lease agreement runs for ‘only’ 45 years, there are rules that might allow it to be extended into a 95-year lease.

Pathways for intended development outcomes of investment

Job creation

The most immediate local economic effect of Investment IV is the salaries that are paid to the 17 people from surrounding local communities who work permanently on the farm. For most of the people, it is part-time work that allows them to also look after their own farms. There are a few full-time employees, who also watch the farm at night, as well as a local farm manager, who lives a few kilometres away. Ten of the 17 employees are women. Any employment created in the area is highly valued, as there is scarce paid work available there.

The investor has a very stable group of employees. Three interviewed women have worked there since the initial coffee plants were planted, around 10 years ago. The stability and assurance of the employment is rare, compared to other agricultural employment found in the area, and is highly appreciated by the (female) employees interviewed (November 2017). Initially, there were 25 women employed, but due to the investor’s need for saving costs, the number was reduced to 10. The work is permanent, in that there is work throughout the year, but varies from two days a week in the lower seasons, to full-time in the harvest season.³³ Based on the assumptions made in note 19, the number of jobs created per hectare of land is 1.05 local jobs (full-time equivalent) created per hectare of land involved in the investment. If looking at the number of jobs created, part-time and seasonal, the figure is higher, 1.31 jobs/hectare, and was as high as 1.92 at the outset of the investment. In Denmark, two people are involved part-time in the roasting, packaging, marketing and selling of the coffee.

Beneficial effects of the business model

Investment IV, established by the investor, has been a source of inspiration for useful low-cost soil improvement techniques which require only knowledge and time and hardly any (economic) inputs. This is, for example, clearly expressed in the interviews with female employees, who were asked whether there is anything from their work at Investment IV that they apply to their own plots of land (even if only having 100 stems of coffee). They express that the mulching, trench digging

³³ Translating this information into assessed full-time equivalents, it is assumed that there are four months with two days/week, four months with three days/week, and four months with five days/week for the 10 employed women. This equals 6.67 full-time equivalents, plus the seven male employees, which are assumed to be full-time jobs, year-round. This adds up to 13.67 full-time equivalent jobs.

and the use of sheep manure, and the associated increase in yields, has inspired them. Except for the manure, the techniques are available to them (interview, November 2017).

Outgrower schemes

The coffee purchased from other producers (who follow the production procedures and quality measures requested by the investor) is another avenue of local economic impact of Investment IV. A training course was set up to help local coffee producers adhere to organic production principles and improve the quality of their coffee to ensure their continued support of or respect for the national park and the protection of wild animals that may harm other food crops.

While 110 families were originally trained (through the initiative of the investor in close collaboration with 'Organic Farming Denmark' and the Ugandan organisation of organic producers), many withdrew at the onset, when there were delays in the funding for the purchases and they felt abandoned. There were incidents, where it turned out that some farmers did not adhere to the organic production practices, although they claimed to do so, and the investor had to stop the collaboration with them. In 2017, when the interview was conducted, the investor was going to buy the additional organic coffee from a just a handful of local coffee farmers. While this concentrates this part of the economic local relation with farmers who have more land than the local average, it is a group of farmers that the investor trusts with regards to adhering to the organic production practices. It is not possible to control, through chemical tests, that there is no mixing of organic and conventional coffee. No contracts are signed concerning the purchase/sale. It is a verbal agreement; the farmers contact the farm manager when the coffee is ready to be bought. The quality of the berries is measured with a flotation test. The coffee berries are milled in a nearby small town, and the shelled beans are measured. Here, the pay is calculated. Normally, there is a 40% bonus for the organic production. So, where normal Arabica would be 5,000 USh/kg, Investment IV pays 7,000 USh/kg for organic coffee (interview, farm manager, November 2017).³⁴ The coffee is stored in a safe and dry storage place in the small town before packaging it and shipping it to Kampala and exporting it to Denmark.

Technology, training and new post-harvest handling

The investor introduced the production of **organic coffee** and introduced (to the local area) **improved ways of post-harvest handling of the coffees**, in ways that improve the taste. The coffee berries are washed, fermented and dried according to specifications. In this way, the investor has introduced a new product and especially a new market. Most of it is produced at the farm. By late 2017, the

³⁴ The farm manager, who is also a coffee producer (but of the Robusta variety) and tea producer himself, and sells organic coffee to Investment IV, explains that it is mainly the price bonus that motivates him to produce organic coffee. Like some of the other coffee farmers, he has employees helping him on his farm—usually four people for the four acres of coffee that he has. The employment of coffee farm workers spread the economic effects of the coffee purchase from Investment IV a bit more broadly than to just the handful of farmers who sell.

harvest was 40 bags, which is around 1,600 kilos of dried coffee berries from the farm itself.

A very important local place effect, which was described in interviews as something that was to a large extent developed through the establishment and training from Investment IV, is the Gorilla Conservation Coffee (GCC). The current director of GCC (in 2017) explains how he was trained by the investor behind Investment IV (and the Uganda organisation of organic farming) on how to improve the coffee by selecting specific varieties, and with methods of handling of the coffee after its picking. He initially thought he would work as an outgrower for Investment IV and sell coffee to them, but as the investor behind Investment IV 'disappeared' from the area for a while at the exact time that purchase was expected (due to difficulties getting the funding organised for the purchase), he had to find another solution for selling the coffee. Later, he met a Swiss NGO person, engaged in the conservation of gorillas, who encouraged him and other local producers to form their own coffee handling and producing company, called Gorilla Conservation Coffee—which they did. However, while GCC uses many of the same techniques that were originally taught by Investment IV, the coffee is no longer grown organically. GCC handles/processes the coffee in ways taught by Investment IV, to improve the quality and taste to cater to an international market, and they have made a lot of marketing efforts in order to achieve much higher price brackets than what is paid locally for coffee beans (interview, trained coffee producer, now in GCC, November 2017).

A group of local coffee producers established a coffee growers' cooperative. This cooperative sells the coffee to the GCC, which helps market and export their coffee, and gives a kickback from the coffee sales to gorilla conservation activities, as well as to production and quality improving training courses for the cooperative members (interview, director and co-founder of GCC, November 2017). GCC has obtained support from WWF-Switzerland, and 40% of GCC is owned by the local coffee growers cooperative while 60% is owned by the NGO called Conservation through Public Health, founded by a gorilla veterinarian. GCC has grown considerably larger than Investment IV, and at the time of the interview (late 2017) has 75 coffee-producing members and supplies 60 million US\$ worth of coffee, annually (approximately 17,000 USD—for comparison, an estimate of the production and purchase of coffee by Investment IV has a local value of 16 million US\$, around 4,500 USD). Asked directly whether the knowledge and ideas introduced by the investor behind Investment IV many years ago is used, the answer of the GCC director is yes.

'It is being applied. Starting Gorilla Conservation Coffee was influenced by [Investment IV].' (Interview, director of GCC, November 2017)

Other economic effects

Investment IV also contributes with fees and taxes paid to different institutions at different administrative levels. For the land, a yearly rental fee is paid at the district level. It is not much, around 15 USD for the first 5 years for the 13 hectares. Additionally, the investor pays for a permit to sell—in order to be able to sell

coffee at the local market, or to export the coffee. That is approximately eight USD/year.

The investment has included the establishment of modest infrastructure for tourists: a couple of huts, a primitive, but newly constructed road. There is no electricity, as recently installed solar panels and battery was stolen (mid 2017).³⁵ There is only a limited flow of tourists visiting the farm, due to the limited infrastructure. The work at Investment IV generally uses low technology solutions, with only limited use of local services. The investor has sourced materials for the hut and road construction locally, and local workers did the construction.

The investor took the initiative to translate the standard contracts and agreements, that the National Organisation for Organic Farming (NOGAMU) had, from English into the local language, to strengthen the information of the local farmers and their bargaining position vis-à-vis purchasers like herself. NOGAMU also proposed that the farmers were to have local representatives (chosen among themselves) whom the investor could then negotiate with, regarding the price, quality and conditions. There were also quality controllers chosen among the farmers in the project, as well as those put in charge of storage and transport. There was one representative in each parish, and seven parishes represented in the project. Despite the efforts made to strengthen the organisational level of the farmers, it seems to have vanished, due to the delay that the investor encountered in getting all funding and permits for the purchase and export.

Networks

Investment IV evolved from an engagement of the investor in an international NGO (CARE Denmark), working with conservation and development in the area. Through this collaboration, the investor got an intimate knowledge of the local challenges that the large wildlife presented to the local livelihood (agricultural production). The investor also developed social ties with local authorities and members of the local community. The investor participates in meetings and engages in local debates about community development and livelihood development, when present. There are frequent meetings with the local authorities at different levels (community, parish and county), to try to promote an environmentally friendly *and* livelihood friendly approach to the neighbouring National Park and the population in the surrounding area.

The investor has established a large network within the Nordic community in Uganda (Nordic Business Association), from where contacts and possible legal advice can be obtained. She also has established good relations for example to development trusts. The investor has applied for money for dual business development and community benefitting projects from the latter. The investor especially enjoyed being part of 'Dansk Kaffenetværk', a network established with

³⁵ There had been a couple of incidents with theft from Investment IV, which were difficult for the investor to handle because of being far away (in Denmark). Finally, therefore, the investor involved the police, which was seen as very socially disruptive by the employees.

support from Danida, with a focus on specialty coffee. There were many interesting people in the network—but unfortunately, it closed a few years later. The investor would like to renew contact with Organic Denmark, as well as make contact with a Danish-based permaculture organisation. In Uganda, the investor can always count on practical help from Uganda Coffee Development Association (UCAD).

CSR activities

The investor helped the female employees organise a ‘savings scheme’, where part of their salary was saved at the moment of receiving their pay. This way, the women could better save up for larger investments. However, at the time of the interview (November 2017) the scheme had disintegrated but was something the women wanted to organise again. Initially, they received their pay on a monthly basis, which helped in saving for larger things. Now, they get paid weekly, which is less favourable for saving, but still better than being paid daily, as is common in most local farms. (Interviews, November 2017).

Furthermore, the investor has invested in extending a current (low quality) road, so that the property is accessible by (4WD) vehicles. This road benefits all that need to walk on it.

CASE V: LARGE-SCALE CEREAL PRODUCTION AND MACHINE STATION. PRIVATE INVESTMENT, WITH LOAN-BASED FOREIGN CAPITAL FUNDS, NWOYA, UGANDA

Investment characteristics

Investment V is a large, mechanised farm with 5,000 acres of land, and it is continuously growing. Most of the land is used for farming crops like maize, rice and soy, with mechanised cultivation but rain fed. The remaining 2,000 acres are ‘planned’ for permanent crops like nuts and forestry: 500 acres are planned for cash crops for export to Europe, like macadamia nuts and cashews, in addition to chia seeds, while 1,500 acres are planned for forestry with teak, pine and eucalyptus plantations. However, the focus of investment V is not envisaged as farming, only, but was envisaged as three-pronged, focussing also on machine import and repairs, and contract work:

1. It has its own agricultural production, which is increasing, on a growing acreage.
2. Investment V has probably the largest tractor and agricultural machine repair workshop in northern Uganda and it especially excels with regards to hydraulics. It hosts and trains qualified mechanics as well as tractor drivers. It has imported used farm equipment from Denmark, and increasingly also imports ‘old models’ of new machines for sale.

3. The farm and workshop function as a ‘machine station’ that offers agricultural mechanised services for pay to farmers in the area, such as ploughing, harvesting, post-harvest handling, etc. While this was part of the initial idea behind the investment, it seems not to be as important as the other two elements.

Subsequently, a fourth area of investment, namely forestry and perennial crops has been added (beginning in 2019). The farm is situated in northern Uganda, not far from the border to South Sudan. It is a drive of approximately one and a half hours from the farm to the closest sizeable town, Gulu, and approximately a 45-minute drive from the farm to the main road close to the nearest growing urban centre (16 km). In 2017 (and continuing in 2018-19), there were about 25 permanent staff and between 20 and 60 part-time or casual workers employed at the farm; by 2022 this had risen to 30 permanent staff and between 30 and 60 casual workers, in addition to 10-12 trainees.

The investment dates back to 2003. The investors have slowly increased the size of the farm, and are regularly offered to buy more land, for example in exchange for tractors.³⁶ The farm consists of several lease agreements with different local (private) landowners. The farm is run by (shifting) farm managers, most of whom have been Danish. Currently (fall 2021), the farm manager is a friend of the main investor with previous experience in African agriculture and agribusiness. Since 2018, the main investor spends about 1/3 of his time at the farm and is, therefore, also heavily involved in its day-to-day management. Whereas the farm attempted to be organic at one point, working without the use of pesticides, they eventually gave up after several years of plagues of pests and weeds. The produce from the agricultural fields is sold to buyers in the area—usually supplying markets within Uganda or neighbouring countries.

‘Used agricultural machines in Denmark are better described as ‘out of fashion’ than worn out. They are still very good.’ (Investor C).

³⁶ In 2016, Investment V had around 3,000 acres (1,200 ha); by 2017 it was around 3,700 acres (1,500 ha).

Figure 7.1. Aerial photo of Investment V



Source: Investment Facebook site, used with permission from main investor.

The sources of finance are mainly private capital. More investors have arrived during the years, always being friends of existing investors, and contacted on a friendly basis to get their support and involvement in the initiative.³⁷ Since 2013, the investment is legally split into a Ugandan-based LTD company and a Danish-based limited shared company in the following way:

- **[Investment V] Denmark Aps** (limited shares company) was formed in 2013. In 2016, the company had seven Danish shareholders, each holding between a few per cent and 40% of the shares.
- **[Investment V] Uganda:** A private limited company. Ninety-nine per cent of this Ugandan company is owned by the Danish company ([Investment V] Denmark Aps), while 1% is owned by the Ugandan lawyer. Accounting reports in Denmark say that the estimated 21 million DKK value of the Ugandan Ltd. is uncertain.

There has also been **public support** given to Investment V. In the early years of the farm establishment, **Danida** supported the project with 200,000 DKK (equivalent to around 30,000 USD) to be used for water hole, administration

³⁷ The two founders are no longer part of Investment V. They have been bought out by the remaining investors. The third investor also contributed with capital and machines, as well as know-how and teaching experience. The fourth investor contributed with capital and access to used machines and parts, which were shipped to the farm, both for use and sale. The fourth investor involved three additional investors, who contributed with money at a financially critical time. Subsequently, farm managers have—for limited periods—had shares in the company as well, but only during their employment at the farm.

building, generator, etc. Furthermore, Investment V has—for some years—received support from the then existing Private Sector Programme (PSP) in Danida. The support was mainly financial, enabling consulting services in capacity building and company development, carried out by a Danish farmer and shareholder. The final report for the financial support was carried out by the main shareholder, in 2013.

For a couple of years, **external financial capital** was involved:

- Temporarily, between 2012 and 2016, loan and shareholding funding was obtained from **Pearl Capital Partners (PCP)**, which is based in Uganda (and in neighbouring Kenya) (<https://site.pearlcapital.net/>).³⁸ The external funds were 1.2 million USD; 700,000 USD as a loan, 500,000 USD as shares. The cost for the external funding was 12% pro anno, but in addition to the finance, the local capital fund provided local knowledge and ‘grounding’ in the agribusiness market, which was very valuable for the foreign investors. *‘Pearl Capital Partners were not just a financier; they were a collaborator. They would fight together with us if someone were attempting to cheat us’* (Investor D, 2022.04.06). However, the investors have paid back the loan and bought out the institutional investor, to regain full control over the investment.³⁹
- Prior to the engagement with PCP, the investors had approached the (Danish) Investment Fund for Developing Countries (IFU), and negotiations were started regarding external financial capital. However, IFU never visited the farm, and the negotiations never materialised into an agreement between Investment V and IFU, as the investors pulled out after a while. Investor D expresses that he feels that the investors lost time and money in the process and concludes that *‘IFU is not for ordinary small and medium-sized enterprises’* (Investor D, 2022.04.06) He strongly recommends to other investors that they select a capital fund that is regionally or nationally based, in order to get ‘locally grounded’ advice. The payment structure, being based on shares, also gives the PCP representatives incentives to fight for the investment, the business. They knew the agricultural sector in Uganda, and they immediately visited the farm and got to know the investment in its local surroundings.

The main investor observes what he sees as a lack of holistic approach to supporting private initiatives intended to help create employment and fight poverty in low-income countries. While there are official goals to work towards reducing poverty in the low-income countries, private investors like himself, who are economically active both in Denmark and abroad, face difficulties in Denmark, because of their investments in multiple countries—regardless of their aim to help fight poverty, he points out. The guidelines of the Danish Financial Supervisory

³⁸ Pearl Capital Partners was managing the African Agricultural Capital Fund, among other capital funds (<https://www.feedthefuture.gov/model/african-agricultural-capital-fund>)

³⁹ The Investment Fund for Developing Countries (IFU) was approached, and negotiations started, but never materialised into an agreement with Investment V (IFU project portfolio, consulted February 10, 2015).

Authority imply that investments in Africa are assessed to have zero value in a Danish economic context. Consequently, investors like him are assessed to have much fewer assets than if the farm was located in a European or Scandinavian context. In practice, it means that he faces a much more restrictive credit situation than fellow Danish farmers who have their investments in, or closer to, Denmark. This restricts him in his development of his agricultural and business activities in Denmark, as well as restricting the development of Investment V, although he sees great potential for further growth and employment creation. In his view, a state guarantee for 'development investments' like his would enable the continuous growth of employment generating private investments abroad, to the benefit of the local area. He knows of multiple foreign investments, where the zero-value assessment blocks finance opportunities in Denmark, thereby restricting business development. In many cases, this makes the investor pull out, to focus on his Danish economic engagement, which may otherwise be negatively affected through higher interest rates, lower loan sizes, lower overdraft permissions and higher instalments. Investor D would happily pay an interest to the Danish state if it were to issue state guarantees.

Box 9. Sources. This case description builds on interviews with several of the investors, a farm visit, and interviews with the farm manager at the time, as well as with several employees. Local farmers in the area, local village representatives and civil servants and representatives of the local government have also been interviewed. Finally, the web has been searched for relevant material.

Box 10. Brief characterisation of the area, including other foreign agricultural investments. This part of northern Uganda borders South Sudan. Before Investment V was established, the land was 'idle' in the sense that the area was affected by a civil war for many years and did not have much remaining population. However, the land had owners, who held long-term and alienable leases from the government. From the beginning of the previous century and until the mid-1970s, the area was infested by sleeping sickness (African trypanosomiasis), and had consequently been declared a 'game park' where settlement was prohibited. Since 1975, settlement has been allowed, and it has been possible to apply for land permits from the Ugandan state. Local people 'carved out' large tracts of land, up to several thousands of acres. Latecomers to the area got smaller farms of 30-50 acres. Not all have formalised their land holding vis-à-vis the state, but through agreements with neighbours. The settlement of the land was strongly affected by the decades of civil war, with its many internally displaced people, losses of boundary markers and prolonged process of return.

Compared to the other AIDA research locations, household farm sizes are quite large. Only a few are landless (2.8% of households), and only 5.4% of households have access to less than one acre of land. A quarter of the households (25%) have between one and two acres and 31% have from two to five acres. As many as 17% have between five and ten acres, and even for larger farm sizes, there are several

per cent of the population represented (see Figure 2.3 above). For those households who reported a specific number of acres to which they had access, the average is 18.1 acres per household (N=354). Taking into consideration the number of adults reported per household, this translates into 0.14 adults per acre.

Despite the widespread land holding and relatively large farm sizes, poverty is widespread in the Nwoya research location, with more than half of the households (56%) falling into the 'poorest' category of household poverty level as defined by the AIDA multidimensional poverty level analysis. Close to a third of the households (31%) are 'less poor', with only 13% of the households being categorised as 'non-poor'. Nwoya is the AIDA research location with the most widespread poverty (Ravnborg et al., 2021). Levels of food insecurity are also high, with 57% of households reporting having experienced more than one month of food insecurity during the past year (N=389 households).

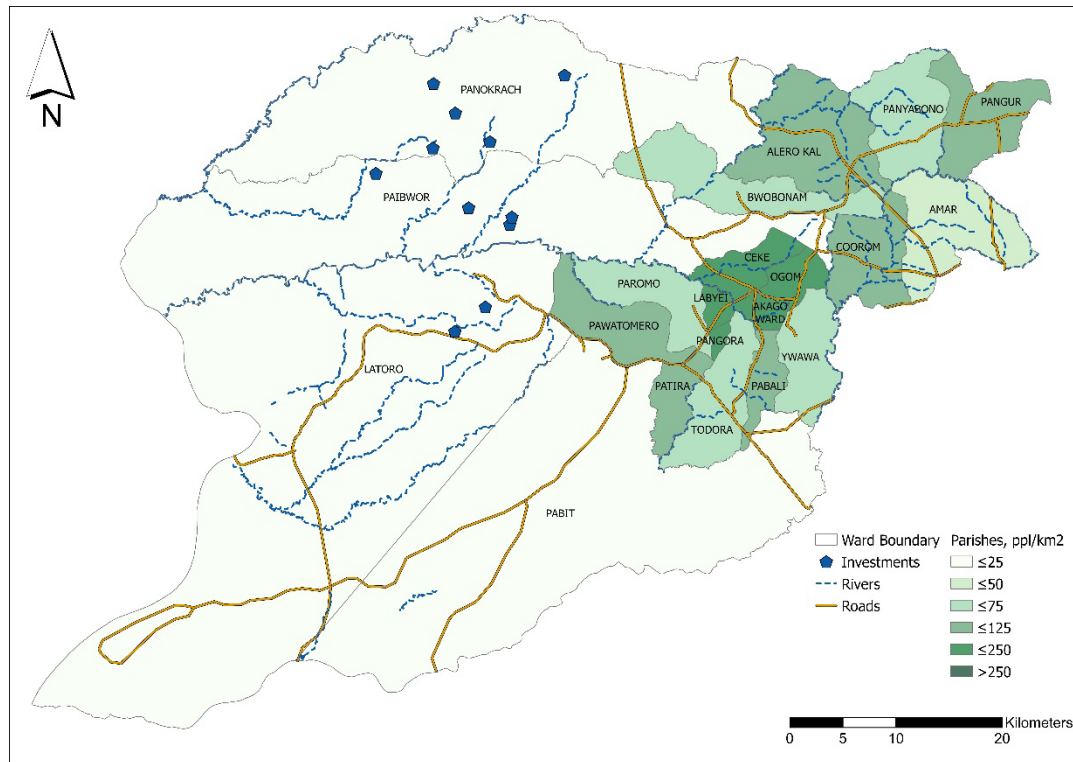
The landscape is rather flat with low, undulating hills, and rivers and small streams draining into the Nile and Aswa rivers. There is approximately 1,500 mm of annual rainfall and a tropical climate with average temperatures around 23 °C. The district is sparsely populated with a population density of around ten persons per km² (UBOS, 2017). Looking at the sampled area for the AIDA survey, the population density of the research location is 34.9 persons/km², which is close to the population density in the Iringa research location in Tanzania.

Foreign agricultural investments are a recent phenomenon in the area. Back in 2010 there was only one foreign investment in a 40 km radius, whereas now, there are many new investments, and almost all of the land is cultivated (in 2016). The new agricultural investors are from any nationality, mainly Indians, but also Germans, Australians and Ugandans. In a survey of foreign owned and non-local Ugandan owned commercial farms in a 25 km radius (Byaruhanga, in preparation), it was found that there were eight non-local commercial farms in the AIDA Nwoya research location: five were foreign owned, one was a joint venture between a South African and a Ugandan investor, and two commercial farms had non-local Ugandan owners. Production focus was on the large-scale production of grains and cotton.

Close to a third (29%) of households occasionally hire agricultural labourers to help at their farm. The neighbouring farms in the area generate important employment, where more than half of the heads of household occasionally take employment; and many for more than three months of the year (18% of heads of household take occasional agricultural employment for up to and including three months per year, whereas as many as 32% of heads of household take similar work for more than three months of the year, according to the AIDA survey (N=248 heads of household). Working as a day labourer at neighbouring local farms is much less common in the Nwoya research location, compared to the other research locations. In total, 5% of household heads report taking agricultural employment at the non-local commercial farms (with just under 3% reporting working three months or less in a year, and 2% reporting working more than three months per year in the non-local commercial farms). Mean daily payment for

agricultural labourers is higher at the non-local commercial farms (with a mean of 1.55 USD/day reported by the 19 employees in the sample)⁴⁰ than at the local neighbouring farms (with a mean of 1.17 USD/day reported by the 217 employees in the sample). It is in Nwoya, however, that the mean daily pay for agricultural labourers at non-local commercial farms is the lowest among the six AIDA research locations.

Figure 7.2. Map of Nwoya research location, Uganda



Source: Own elaboration.

⁴⁰ Salaries for casual labourers at Investment V are reported to be above this average, around 2 USD plus food and lodging (Investor D, 2022.04.06).

Figure 7.3. Landscape view of Investment V



Photo: Rikke Brandt Broegaard.

Investment typology

Following the investment typology proposed by Gallent et al. (2019) Investment V can be characterised as an investment where investors have a **direct approach** to investing, meaning that in addition to buying land, they also improve the land and invest in equipment, in buildings, in boreholes etc. They are themselves involved, rather than through an asset manager/asset management company.

Secondly, Investment V can be characterised as having investors with **active approaches to the investment**—especially by the main investor(s), who shape the company and the activities on the ground. Over time, who has been the active investors has changed: The two founders are no longer part of the company. One investor was originally very actively engaged in the management and practical issues of the farm, but due to increasing economic requirements, as well as increasing family obligations in Denmark that do not go well with the active engagement in Uganda, this investor has become—in the terms of the investor—a ‘shadow person’ in the company, i.e. someone who is passively engaged.

The main investor (in terms of share of investment) is actively engaged in the farm’s management decisions and the related investments. A (now former) farm manager was also a shareholder during the time he was farm manager, illustrating the ambition of having economic interests and management activity work in tandem. Several times, the active Danish investors with a background in farming have been tempted to go and manage the farm themselves, but due to commitments in Denmark, the farm keeps being run or co-run by an employed manager. Three of the investors, owning minor fractions of shares, have a passive approach to the investment, and have provided capital at critical times. They are all friends of the main investor. These three investors have a passive approach to the investment in the sense that they see themselves as economic backers of the dreams and ambitions and direct engagement of the other investors.

Finally, Investment V is characterised by having **transformed land use**, over the past almost 20 years, from grassland savannah to agriculturally used fields. At the same time, the area has changed from being a civil war zone with camps for internally displaced refugees nearby, to being an area with (re-) settlement, in-migration and large-scale conversion of land into agriculture. More recently, forestry (since 2019) and carbon sequestration (since 2022) have been introduced as new land uses.

Figure 7.4. Agricultural machines for sales at Investment V



Source: Photo from Facebook, with permission from Investor D.

Investor background and motivation

Investment V is an agricultural investment dating close to 20 years back. Right from the outset, the motivation for starting the engagement was a desire to contribute positively with what was at the time seen as a critical need: increased production of food for the local population, as well as facilitating their own food production through the establishment of a ‘machine station’ with tractors and other agricultural machines, including the facilities and competences needed for their repair.

The investors behind Investment V shared the excitement about ‘making a difference’, a huge difference, for a community and a region, through agriculture. Furthermore, they had additional motivations including the desire to stay in a foreign country and to be able to farm in tropical environments with the ability to harvest two to three times per year in fertile soils. Furthermore, it was attractive to obtain freedom from the regulations and rules and administration in Denmark and then the EU. In the interviews, it is obvious that the two current main investors, who are or have been actively involved in the farm, really enjoy being there, enjoy building relations with neighbours; enjoy that there is room for differences in Uganda. Finally, the ability to export used agricultural machines

from Denmark, repair them and put them to work in Uganda, was also attractive, both from a professional and from an economic point of view for the investors.

'You can take things in your own hands and make a difference, a positive difference. For example, regarding the road repairs: In [local administrative centre], it is highly appreciated if we start repairing the potholes in the road. In Denmark, you would be told off or get fined if you started repairing public roads, even if it is needed.' (Investor D, 2016.10.10)

Investor D has become the main investor. The investor is in his early 50s, has a background as an agricultural technician and owns a company focused on agricultural machines and their use, repair and sale. The investor dreams about living on the farm in Uganda and leading the farming, but up until 2018, due to family and business commitments, he had only visited the farm in Uganda four times a year for eight to ten days. During these visits, the investor talked with the lawyers; worked to get the titling situation organised; talked with authorities; and inspected the farm and the machine workshop.⁴¹ Since 2018 he has spent approximately four months every year at the farm and is much more directly involved in the daily management of the farm, as well as of the workshop and the training activities, still in collaboration with a (new, Danish) farm manager.

An implicit success criterion is that the investment must generate a surplus. Investment V is an *investment*, not a charity. However, there is no strictly defined time frame within which it must generate a surplus, and two interviewed investors express that it has (already) taken longer than they expected to reach that point. They are engaged in the investment and, especially the two investors with the longest involvement, feel attached to the place. Other success criteria are personal for the involved investors: it has to be fun and satisfying for them (this may include handling challenges); and it has to be meaningful (in the sense that they can see that they make a difference in the area). Both of these criteria are completely fulfilled.

The investors have a vision about making the investment grow, to put the machinery to better use and to help meet the ever-increasing demand for food from the growing Ugandan population. They also have a vision of continuing the mechanics workshop, as they consider the training of qualified staff very important. In the future, they would like Investment V to develop an agriculture school, an ambition they have started realising by having 10-12 trainees at the farm and in the workshop, who learn-by-doing. These goals express the combined ambition of private returns on an investment and challenging oneself as farmer and businessperson, while at the same time making a positive difference for the development in the area where the investment is located.

⁴¹ Investor D is involved in other agricultural investments in Africa—in Uganda, Zambia and Mozambique. The involvement in these other investments outside of Uganda is motivated by the same desire to contribute to countries becoming able to feed themselves, at the same time as the investor expects to get an economic return from them.

Pathways for intended development outcomes of investment

Job creation

One of the ways in which the investment benefits the local area is through the **employment created**. The employees benefit from a good salary and through additional training. By 2016/17, there were approximately 18-20 permanently employed staff at Investment V. Most of them were involved in the mechanical workshop or work as machine operators; additionally, there is some administrative staff. By 2017, most of the employees were from districts further away, and four had come all the way from Kenya (field notes, November 2017). In the summer of 2017, there were also six permanent casual labourers, called permanent casuals, working year-round on the farm. By 2022, the number of employees had increased to 30 permanently employed persons (including the permanent casuals). Also, by 2022, the number of *local* employees has grown, including some who started as casual labourers but have now learned English and learned to drive tractors (Investor D, April 2022). Salaries are good compared to local standards.⁴² For all permanently employed staff, the job comes with accommodation and television access, meals, health insurance for the worker and three family members, leave entitlements, uniforms and other free clothes and protective gear when needed. The wife and children of permanent employees are also welcome to live at the farm. In late 2017, there were nine school-aged children living at the farm, but unfortunately, there was no nearby school (interview, farm manager, November 2017). Beginning in 2022, school-aged children of employees are not allowed to stay at the farm due to the lack of school close by; it is not acceptable that children do not go to school (Investor D, April 2022).

Additionally, there are casual labourers, particularly during harvest season, which is biannually, July-August and December-February. In 2017, there were an additional 20-60 casual labourers, roughly equivalent to 12 full-time, year-round positions (field notes, 2017). By 2022, this had increased to between 30 and 60 non-permanent casual labourers, all of whom are included in National Social Security Fund payments.⁴³ Many casual labourers are from other districts in the region, and when asked about this, the reply is that locals are not reliable for labour because they prefer to work on their own farms, and consequently, the company employs people from elsewhere (field notes, 2017). Formerly, under the management of Investor B, if a situation arose where they were short of harvesters, he would simply hire extra day labourers to harvest manually – up to 100 seasonal labourers. It worked but involved many logistic issues in terms of lodging and food for those 100 extra mouths (interview, Investor C, December 2016). In an interview, a local chairperson mentioned Investment V and another foreign

⁴² Monthly salaries start at 500,000 Ugandan Shilling (~137 USD), the primary tractor driver gets 1.5 million USh/month (411 USD/month), plus overtime, often a total of 2 million (548 USD/month); and the workshop manager gets 4 million Ugandan shilling/month (1096 USD/month) (Farm manager, November 2017) (Based on exchange rate of November 10, 2017, of 1 USD=3648.0 USh). Salaries for casual laborers are 2 USD or more, plus food and lodging, whereas the average for casual labourers in non-local agricultural farms in the research location is 1.55 USD/day (AIDA survey data, see Figure 2.7).

⁴³ An estimate by Investor D is that the farm generates between 60 and 70 full-time equivalent jobs (Investor D, 2022.04.06).

(European) large-scale agricultural investment as examples of investors who ‘treat people at least fair’, different from other large-scale investors in the area (here from Asia). The comment was made with reference to both human rights and salaries (interview, village local council chairperson).⁴⁴

As of 2016/17, there were approximately 20 full-time employees who are permanently employed, and 6 permanent casual labourers (with full-time work), plus additional casual labourers in the harvest seasons (approximately 1/3 of the year, adding up to around 12 full-time equivalents), on an area of approximately 2,000 hectares. All in all, by 2017 Investment V had created 0.02 jobs per hectare (or used 50 hectares per job created). By 2022, there is a total of 30 full-time permanent employees (including the permanent casuals), and between 30 and 60 temporary casuals, adding up to between 60 and 70 full-time equivalents. All in all, by 2022, Investment V had created 0.03 jobs per hectare owned (or used 33 hectares per job created).

These figures include the workshop, which does not take up much land, but involves around five permanent staff. However, they do not include the ‘trainees’, who sign a contract with the farm to be taught by the experienced employees to do mechanics, operate the machines and the like. By early 2022 there were 12 trainees at the workshop. In addition to being trained and receiving lodging and food, the trainees get a small salary – starting at 50,000 USH/month in their first year of training, increasing to 100,000 USH/month in their second year, and then, depending on abilities and qualifications, from 150,000 USH/month to above 200,000 USH/month.

Beneficial effects of the business model

The **harvesting and soil preparing** for others (as a ‘machine station’ or what is labelled ‘agro-services’ on the website) was one of the central business model and development effects pathways in the original idea. Over the years, however, this has moved to the background. Investment V usually does not work for other farmers as a ‘machine station’, unless it is a big operation, or if they have bought parts for large sums. This is mainly due to the ‘helping your neighbour’ expectation. That is the spirit in the area: People help each other. If there is surplus capacity somewhere and others need it, you help. According to the farm manager, they harvested for 10-12 neighbours in the last harvest season in 2017, areas were between eight and 500 acres. Investor D explains that the ‘machine station’ price list is in the more expensive end of the market, which is a conscious decision to make sure not to compete with neighbouring local farmers who have bought tractors. Investment V only does agro-services for other farmers, when other, smaller actors do not have the time. Furthermore, they offer their employees the use of the agro-services for a reduced price (80% of the listed cost) at land plots

⁴⁴ According to an interviewed village (LC1) chairperson from the area, the pay for casual labourers is 50% higher in Investment V (and 75% higher in the German investment) than in the Indian investments (November 2017).

that they can rent from the farm, and thereby have the possibility for an additional source of income.

Creating a local market for crops. Investment V sometimes purchases produce from neighbours. According to the farm manager, it happens often. In some seasons, they can buy maize and rice from 15-16 farmers. The quantities they buy vary a lot, from seven bags of rice to 11 tons of maize. Nothing is too small. This way, they create a market for farmers close by. Some farmers make an agreement before they plant while others only appear when they want to sell the produce (interview, farm manager, November 2017). Interviews with district officials also acknowledge that Investment V, through the purchase and later marketing of local produce, helps give a better price to local farmers, than if having to sell small quantities to middlemen (field notes). Investment V has its own **drying facilities**. If they buy from others, they also dry it and clean it. This helps reduce post-harvest losses.

Regarding **repairs of machines**, people come all the way from South Sudan to have hydraulics repaired, as there are no other workshops for hydraulics (of quality) in the area. There is a high demand for repairs.⁴⁵ In addition to making repairs, they sell parts and tools (investment website). The workshop at Investment V is a well-equipped and well-run workshop, especially regarding hydraulic tubes and pumps. Because of good tools, good input and sufficient power, they also make welding jobs that last. The workshop is worth 1.5 million DKK in parts (roughly 225,000 USD). By 2017, there were five full-time employees at the workshop; a number that doubled by 2022. It makes a huge impact on the area, in terms of agricultural productivity, as machines can be repaired and get back to work. The effect can be felt at least as far as a 100 km radius from the workshop, assesses one of the investors. In the local area, for example, other foreign investors, even 30-40 km away, sometimes seek their help.

The **sale of tractors** and other agricultural machines from Investment V to farmers in the area also has a huge impact on the agricultural productivity in the area. Investor D illustrates the effect of a good farmer getting a tractor by telling about a young farmer, who has land 10 km from the farm. When Investor D arrived, the young farmer had land but no means to cultivate it. He then bought a tractor on credit, for 10,000 USD. Now the young farmer has paid his debt, cultivates the land—more than 100 ha— and has several tractors and wagons, all paid, and 400 tons of rice in storage. ‘*I am a commercial farmer now*’, he says proudly’, investor D shares. The image of the purchase of a tractor as a life-changing event is confirmed in interviews with local people. Between 2011 and 2016, Investment V has sold approximately 25 tractors in the area. Some of these are in use on the farm of the owner, and on other’s farms—as a mini machine station service that helps improve the economic return on the tractor purchase. Unfortunately, other tractors are ‘grounded’, as they have broken down due to misuse and have not been repaired, as people typically do not have money for the repair. Investor D

⁴⁵ According to the farm manager, the workshop has 80 customers. At the time of the field visit (November 2017), three tractors are ‘customer tractors’, i.e. tractors left for repair.

estimates that at least half of the sold tractors are 'grounded'. The investor wishes strongly for an agriculture school, a training facility where people could learn how to handle different machines, at a practical, hands-on level. The establishment of such a training facility requires a lot of collaboration, and contacts have been established with high-level decision makers in Uganda, with some project proposals presented. As an interim measure, the investors behind Investment V require that a buyer of a tractor send the tractor driver for a two-week crash course on how to handle the motor and the machine before they are allowed to drive away with it. Furthermore, Investor D has learned to sell the tractors a bit more expensively, and then include free repairs for the first year (unless the tractor is driven off a cliff or the equivalent).

Whereas Investment V initially imported used farm machines from Denmark to Uganda, the investors have recently also invested in new machines—for the farm and for sale in the area. Some machines come from Brazil, as these machines can drive on unclean diesel, which the newest machines in Denmark no longer can. Tractor sales from Investment V are increasing, with the new machines. Furthermore, four combine-harvesters have been sold in the local area (a radius of approx. 40 km), thereby influencing the agricultural productivity positively, the farm manager assesses.

The investors behind Investment V invests a lot in **education and training of staff**, especially concerning repair, maintenance and use of agricultural machines. In 2017, Investor D assessed that the farm could be run by three Danish farmers and their machines, while actually, there were 11-12 persons involved in the agricultural production, including one full-time farm manager (Danish). The investor ascribes the difference in productivity to differences in education level. An additional challenge is that when workers have been trained through their work at the farm, many of them are then 'stolen' by other employers, who can offer a higher pay. Bigger operations can offer higher salaries. So, the good workers move. Investor D is frustrated about this from the viewpoint of Investment V, but also sees it as a **capacity** that the investment builds in the area. Investment V has developed 'many good boys', and lost them to newer, larger foreign farm operations in the area. By 2022, the training efforts have been systematised into a four-year programme at the '[Investment V] Academy', with 12-13 young trainees working and being trained on the farm—some in the workshop, some in agriculture, some in forestry (Investor D, April 2022). The trainees are offered lodging and food on the farm, in addition to a small trainee pay, which increases with progression in the programme and skills.

Agrochemicals, fuel and oil for sale. Investment V purchases agrochemicals in bulk from Kampala, as no local stores have the quantities they need. Therefore, neighbours can buy from the farm. They sell approximately 15 tons of fertiliser and 2,000-3,000 USD worth of agrochemicals to local customers. Likewise, Investment V always keeps a good storage of fuel and oil, enough to sell if a neighbour or customer needs it. For the neighbours, this is an important service, as it saves local medium-size farmers from having to have agrochemicals sent to them by bus from the capital, which is messy and expensive. Investment V may

sell it with a bit of a profit, but then it takes time too; so, it is more in the spirit of helping each other, than as an avenue for profit.

Inspiration to neighbouring farmers through agricultural techniques and experiments with new crops. Commonly, people come and ask the farm manager whether they can join him for an evening trip around the fields, to see how he identifies and handles problems, how he handles different crops and the soil, and the application of chemicals. People come and see the rice, asking the farm manager how he can get such a good-looking crop and such a high yield. Then the farm manager explains what he does, so people learn. Sometimes people come and ask about a new pest, a problem; sometimes the farm manager can answer, and when he can't, he can look it up at the internet (farm manager, November 2017). The farm manager also teaches about minimum tillage, which is something new in the area. However, Investor D underscores that sometimes, especially with regards to how to handle climatic factors, the investors also learn from the locals. There are climatic changes that cause water scarcity at times and flooding at others. Luckily, the locals have and know a variety of ways to deal with it through different soil handling, including 'no till'.

'To me, being near the investors acts like a school and we are still learning, compared to Europeans, and they are bringing technology that we use. We interact with the investors and share ideas together and this uplifts you and you can ask some questions from the farmers.' (Medium-scale farmer, friend of Investor D, November 2017)

As the newest business branch, forestry activities and carbon capturing are being established, monitored and sold, initially to entrepreneurs in Denmark who want to become CO₂ neutral, in order for their company to be eligible for public bids (Investor D, April 2022).

Other economic effects

One way that foreign agricultural investments influence the surrounding community is through the purchase of land lease agreements. It has mainly been families with very large tracts of land, who have sold parts of their land to Investment V, often to buy a used (or new) tractor, so as to put the remaining land to more efficient use. Other investors rent land, for example for 15 years, from local owners. In an interview, a chairperson from the area highlights the income from land rentals as something that improves the lives of those families who have spare land to rent out. The rental income then gets invested in school fees for the children, or a house in town.

The employment and living at Investment V generate money that is spent in the local area, where new modest 'shops' have developed over the years. The presence of—by now, several—large-scale crop producers in the area has attracted agro-processing plants from elsewhere in Uganda, and there is a noticeable influx of people to the area, looking for work. This is seen, among other things, in the rapid development of 'trading posts', consisting of a couple of houses and one or two stores, that appear throughout the landscape.

Some of the effects of the income are felt far away. Many of the permanent employees, who are not from the area, rent land around the area to plant and sell. Several employees have invested the income from the harvest, plus their salaries, in building houses in the locality or where they come from.

As all investors in the area, Investment V pays taxes to the local municipality, thereby contributing to the local government revenue. There are three local taxes paid by investors: 1) A local service tax, paid on the basis of the number of employees; 2) a loading fee, based on estimates of the production (based on acreage and estimated yield); and 3) a trading licence, which is also negotiated based on an estimate of the production, as determined by a technical team from the district (district commercial officer, November 2017). In early 2022, Investor D reported that Investment V is the largest contributor of personal (salary) taxes in the district, although they are in no way the largest employer. This is a reflection of the fact that they have made great effort to formalise all contracts.

CSR activities

Investment V is among the companies that local communities and the municipality can and do call upon when help is needed to improve the roads. The last ten kilometres of road from the main road to the farm has been established by the investors behind Investment V. It was a bicycle track when Investor D first got there in 2011. There was nothing. It was in 2011 that they first 'graded' the road with an old tractor. They still contribute (at some cost to the municipality) to the repair and creation of roads. In 2021, they renovated 40 kilometres of dirt roads. This year, in collaboration with two other investors, they have repaired and reconditioned 22 kilometres of road. Sometimes, the truck from Investment V is put to work as a local ambulance, when needed, Investor D tells.

Investment V has a formulated CSR policy that revolves around the philosophy that content workers are also productive workers. This is reflected in good salaries for the permanent employees; good housing (the company provides beds, sheets and mosquito nets for staff); clean water and 'improved, varying food'; and TV, entertainment and leisure facilities. A gardener is now employed at the farm, producing vegetables for the employees, making sure they are served balanced and nutritious meals. As something relatively new, all permanent employees are offered to rent a piece of land, which they can farm, and where they can use the agro-services of Investment V at reduced prices. This generates good income in the area—some employees have earned an additional two years' salary due to good harvests. All permanent employees are offered loans for private investments (whether in houses or agriculture). The development of an agriculture school is mentioned as a future CSR activity; as of 2022, an (unofficial) four-year trainee programme ending with a diploma had begun.

Other non-farming services available to the community through the establishment of Investment V include basic but important and appreciated services like the charging of mobile phones, and a small shop which sells a few basic elements, including airtime, and maize and rice hulling machines, which are also available (for pay) to the local community (company website, visited 2016 and 2017). Also,

the service of listing the market prices for local crops is mentioned as a service— an element that can be important for local farmers when they negotiate with buyers (company website, visited September 2021).

The farm is often talked about as ‘the town’, because there is a tent where all can come and watch TV— at any time, because there is always power thanks to both solar panels and a generator.⁴⁶ There is a water post available to all, with some of the water from the borehole that Danida financed. There is also now internet connection, which is a very important element, as the mobile network is unstable in the area. With the internet connection, the workers can send pictures of missing parts, etc. Investor D mentions that in 2016, the local police considered making a police outpost there because there was (and is) water and electricity. It has become a kind of small settlement...a place with some service!

CASE VI: MEDIUM-SCALE CEREAL AND SEED PRODUCTION WITH STORAGE FACILITY. DANISH/UGANDAN JOINT VENTURE, PRIVATE INVESTMENT, NAKASONGOLA, UGANDA

Investment characteristics

This investment is a medium-scale (approximately 300 ha) farm, specialised in maize and maize seed production. Additionally, it has a small pig production. It occupies approximately 300 has of land, situated in a fertile and flat part of Uganda, allowing mechanisation of the agriculture, which is rain fed, as underground rocks inhibit wells. The investment is organised as a joint venture between two friends, a Danish and a Ugandan farmer. The former has invested money and expertise, while the latter has invested land, which used to be a family farm. Shares are shared 30/70, respectively.

Together, and with the support from the Danida Business-to-Business (B2B) Programme, they have expanded the cropped area and specialised the production, mainly through the production of high-quality seed maize, as well as its cleaning and marketing. Production of seed maize is more feasible on a large-scale farm, as contaminating pollination more easily can be kept away. In total, the Danish investor assesses to have invested around a quarter million USD in the company, from private funds, accumulated through the salary gained from involvement as a consultant in agricultural development in B2B programmes. The Ugandan partner has contributed with land and time, and the B2B programme has contributed with multiple small grants. One project grant helped improve the storage facilities for their own production of maize, as well as for other farmers in the area, who could rent part of the newly established storage facilities or sell their crops to the company that owned the storage facility, which would then resell the produce at a

⁴⁶ As of 2022, this has been upgraded to an actual TV room, which also served for church services on Sundays (interview, Investor D, April 2022).

later point in time. This project focused on reducing post-harvest losses in the local maize production, something that is of large developmental and economic importance in a country like Uganda (FAO, WFP and IFAD, 2019). The second B2B project focused on the production of improved quality seeds for maize, as well as drying them and storing them, to increase maize harvest in the area, and put the storage facility better to use, to keep reducing post-harvest losses. However, climate changes make agricultural production a riskier business than it used to be.

'Farming is becoming risky business', the Danish farmer assesses, looking back over the past few years and comparing them to 20 years' knowledge of farming in the area.

The Danish investor is actively involved in the decision-making of the agricultural production, as well as in the development of plans and strategies, and in investment decisions and investment funding activities. The farm has 10-12 permanently employed workers, and in the peak work season, there are up to 100 day-labourers, as seed maize involves a lot of manual labour. They have recently started hiring a farm manager, as the Uganda partner ages.

Box 11. Sources. This data in this investment characterisation is based on interviews with the Danish and the Ugandan partners of the joint venture, as well as a key informant interviews with other investors in the area, district agriculture officers, production officers and local council members. Interviews were carried out by phone, in personal meetings and field visits between early 2017 and late 2019.

Box 12. Brief characterisation of the area, including other foreign agricultural investments. Nakasongola lies in the central part of Uganda, at heights between 1,000-1,400 m.a.s.l., in a region with fertile soils, average rainfalls between 875-1,000 mm/year, and highest temperatures ranging around 30-32 °C (Twinomujuni and Rwabwogo, 2011). It used to have a prolonged dry season (five months), but in recent years, rainfall has become less predictable. A total of seven medium to large commercial farms were identified in the research location, of which four were foreign owned, one was a joint venture, and one had a Ugandan owner (Byaruhanga, in preparation). Of the seven commercial farms, four mainly grow maize; one grows cassava, while one, with a national owner, grows maize and mixed crops (data missing for one of the farms). Two of the medium-to-large commercial farms employ labour intensive production methods, while the rest use a combination of labour intensive and mechanised production methods (Ibid.) Nakasongola district is sparsely populated with an average population density of 55 persons/km² (2014 population census, Uganda Bureau of Statistics, 2016), but with considerable variations between parishes. Within the AIDA research location, population density is 48 persons/km².

Nakasongola is the research location with the least poverty among the Ugandan AIDA research locations. Only 25% of the households fall within the 'poorest' household poverty level category, while 40% are 'less poor' and as many as 35% are classified as 'non-poor' by the AIDA multidimensional household poverty index

(N=394 households). Despite this, food insecurity is widespread, but less so than in the other two Ugandan AIDA research locations. In Nakasongola, four in every ten households report having experienced more than 1 month of food insecurity during the past year.

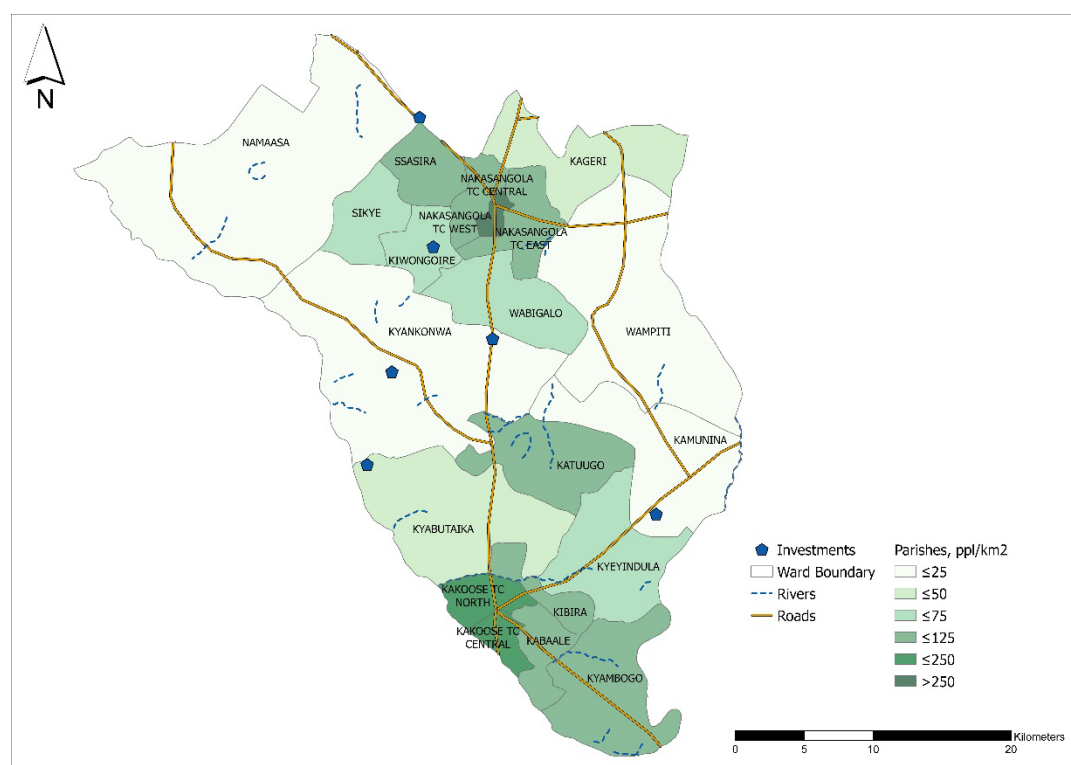
Landlessness is relatively widespread with 6% of households not having access to land of their own for farming. Additionally, 10% of the households have less than one acre of land. A quarter of the households (25%) have between one and two acres, and 28% have between two and five acres (see Figure 2.3 above). For those households where a specific number of acres were indicated, the average area to which as household has access is 11.9 acres (N=340). Considering the number of adults reported per household, this translates into 0.20 adult per acre.

In Nakasongola, a quarter of the households occasionally hire agricultural labourers for their farm. This is the lowest frequency of hiring farm labour in the three Ugandan AIDA research locations. Also, the level of offered jobs in local neighbouring farms is low in Nakasongola. Thirteen per cent of heads of household take agricultural employment at neighbouring local farms (approximately 8% three months or less of the year; the remaining 5% take this kind of work during more than three months in a year). In a total of 9% of the households, either the head of household or the respondent take employment in non-local commercial farms. This is a much higher figure than elsewhere in the Ugandan AIDA research locations. Half take this kind of work for up to three months of the year; the other half work more than three months of the year in non-local commercial farms.

As the only one of the six AIDA research locations, the mean daily pay for agricultural labourers is lower at non-local commercial farms than at local neighbouring farms (2.22 USD/day vs. 2.24 USD/day) (AIDA survey, based on 29 respondents working at non-local farms, and 60 respondents working at local farms).⁴⁷

⁴⁷ This figure does not reflect the wages at Investment VI.

Figure 8.1. Map of Nakasongola research location, Uganda



Source: Own elaboration.

Investment typology

Following the investment typology proposed by Gallent et al. (2019) investment VI can be characterised as being an investment where the Danish and the Uganda partners in the joint venture have a **direct approach** to investing, meaning that in addition to owning shares of the company that holds the land, they are also involved in investments in equipment, in buildings, in boreholes etc. The Danish investor is directly involved, personally – not through an asset manager/asset management company.

Secondly, the farm investment can be characterised as having investors with **active approaches to the investment** – meaning that the investor personally is involved in the decision-making regarding new investments and initiatives that are meant to develop the company, as well as have a positive economic or food security impact on the area around the investment. This is reflected in the activities related to reduction of post-harvest losses, as well as in the production of high-quality seeds, to help increase production for other farmers.

Finally, the farm investment is characterised by having **continued the former land use** in the farm area, although the area under production has been increased, meaning that fallow periods have decreased.

Investor background and motivation

The investment in this farm in Uganda grew out of a friendship that developed between the Danish farmer and a Ugandan farmer. The Danish farmer was

servicing as an agriculture advisor for a Danish NGO working with rural development in Masindi, Uganda at the start of the 2000s. The Ugandan farmer had applied for Danida support, but not heard anything. The Danish farmer was familiar with the B2B project goals and facilities, and as they liked and trusted each other, they decided to develop the project together, applying for support from the B2B programme at the Danish embassy to further develop the farming business that was already well established at the farm. They turned the family farm into a joint venture, in which they each have shares. Since they started collaborating, around 2005, they have expanded the cultivated area from 125 ha to 200+.

The Danish investor's involvement in the investment is motivated by a personal desire to improve living conditions for small-scale farmer, for example through improvement of storage facilities, to reduce post-harvest losses. Additionally, the investor is personally motivated by the experience of being involved in projects abroad, in different cultures. The investor enjoys being in Uganda. A personal philosophy is that life and farming have to be fun—this is part of why the investor has looked for new challenges and new experiences, additional to those on the family farm in Denmark. The investor's involvement, including the economic one, are consciously kept at a level where it does not threaten the pension funds in Denmark. Therefore, even if there is no economic return from the investment in the end, the investor expresses that it will not feel like a loss—because of the experiences and the travels.

On the farm in Denmark, the Danish partner produces pigs and feed crops. The Danish partner visits the Ugandan farm five to six times a year, for a month at a time. Most of this time there is spent planning farm activities, taking care of bank and embassy meetings, as well as training the partner and their local employees in farm management. The Danish partner has a true international outlook—in addition to the Danish family farm and the involvement in the Ugandan farm, the investor was previously involved in agricultural investments in Poland and Romania. According to the investor, the latter two involvements were business-motivated, to make money.

An implicit success criterion is that the activities within the joint venture must improve living conditions for small-scale farmers in the area. However, the Danish investor expresses that the dissemination of the seeds, produced by the farm, does not work as expected, due to a low degree of trust among local farmers. Furthermore, although the projects have reduced post-harvest losses, the ongoing climatic changes 'make farming a risky business these past few years' (interview, Danish investor). At a personal level, a success criterion for the Danish investor is that life and farming is fun—and through the interviews, it is noticeable that no matter the possible economic return on the investment, the investment is a success in these terms.

As of 2019, there were no concrete exit plans for the investments. However, the Danish investor is in his early 60s, and the Ugandan partner is into his 70s, and consequently, the Danish investor imagines that they will finalise the project

together within a few years. The Danish investor is not very interested in having to negotiate with possible heirs. When the current investment ends, the Danish investor does not intend to initiate anything alone but might be interested in being involved in another Ugandan investment together with others.

Pathways for intended development outcomes of investment

Business model

According to the investor, the most important development impact of the investment has been the production of higher quality seeds, which—if distributed to small-scale farmers with two-to-three-acre farms (calculating 10 kg of seeds for a farm this size)—are sufficient to reach 30,000 farmers, increasing their harvest (if climate permits). The investor calculates that the small-scale farmers will increase their production by 25-50%, compared to a non-hybrid seed use. With their presence, the two partners have increased the local focus on the importance of the quality of the seeds, as well as the need for fertiliser, in order to improve harvest quantities.⁴⁸ They offered the seed grains to local farmers on a loan basis—an approach that was shown not to work, as seeds were not returned after harvest, as promised.

Furthermore, the investors have developed a business model that includes the creation of storage facilities that local farmers can rent, or benefit from indirectly, as the storage facility enables the joint venture to purchase grains and store them, with little or no post-harvest losses. This enlarges the local market, as Investment VI can purchase and store large quantities of locally produced maize.

Connections and negotiation: Enlarging the market

The joint venture has itself provided maize to the World Food Programme (WFP), and through this contact, has negotiated with the WFP and achieved a commitment by them to source at least 20% of the maize distributed in Uganda from Ugandan producers. As the WFP is the largest player in the maize market in the region (FAO, WFP and IFAD, 2019, p. 83), this is an important achievement, which the Danish investor is highly content with as it ensures markets for the local producers.

Presence and inspiration: Model farm

Although it is a private investment, the farm functions as a kind of demonstration farm, which can influence other farmers, who can come and see how to use different approaches to improve the agricultural results. The partners envision this as an incremental process; namely, that farmers improve their farming methods little by little, from farming and experimenting a bit more systematically and with a bit more engagement to improving harvest as much as possible. However, the

⁴⁸ The Monsanto Corporation initiated a collaboration with Investment VI regarding the dissemination of information regarding the importance of good quality seeds. However, Monsanto withdrew from the collaboration because they did not see sufficient interest from people, and because they experienced marketing of second-generation hybrid seeds in the area.

Danish investor assesses that the climate changes that central Uganda experiences, particularly since around 2014 or 2015, demotivate or demoralise farmers, who had recently started using improved seeds, as harvests have been seriously diminished due to the climate effects. In other words, the climate changes make the introduction and dissemination of improved agricultural techniques an uphill battle.

Box 13. Survey responses on community changes associated with foreign and non-local commercial investors. In a research survey on community changes associated with foreign and national commercial investors in the Nakasongola research location (AIDA, 2018), the contribution of more employment opportunities was highlighted by 70% of the individuals, when listing positive community changes. The second most frequently mentioned positive impact from foreign and non-local commercial agricultural investors as ‘new ideas for agricultural production’ (mentioned by 35% of cases), followed by ‘improved roads’ (25% of cases). ‘Better marketing options for agricultural produce’ and ‘more economic activity in general’ were also mentioned (by 20% and 19% of cases, respectively). These responses from a random sample of individuals in rural communities in Nakasongola correspond very well with the intended place effects of Investment VI, and probably reflect the general influx of national and foreign agricultural investors to the area. (See Ravnborg et al., 2021 for a detailed description of the sampling procedure and area).

Job creation

The production of seeds involves manual removal of stamens and thus creates local jobs. The farm has 10-12 local, permanent employees, in addition to somewhere between 60 and 100 day-labourers. The latter are involved in peak season tasks like planting, spraying and weeding between the rows, the manual picking of stamens, and the manual harvest and threshing of maize. Adding up all the tasks, Investment VI may hire day labourers up to nine months a year, according to the Danish investor. A rough estimate is that the number of jobs created corresponds to 72 full-time,⁴⁹ year-round equivalent jobs, on a total of 300 hectares. This means that Investment VI creates 0.24 jobs per hectare (full-time, year-round job equivalents).

The project has expanded the area that is actively cultivated each year (from below 125 ha, to above 200 ha of the approximately 300 has of the farm). This is part of a much larger tendency of expansion of cropped areas, at the expense of bushland, grassland and woodland, primarily (see Byaruhanga, in preparation).

Postscript

After the finalisation of the edition of the report, when commenting on the draft version of the chapter, the Danish investor explained that the situation has

⁴⁹ An average of 80 day-labourers during nine months of the year (80 x 9/12) in addition to 12 permanent employees.

changed radically after Covid-19. His Ugandan friend and partner, who was already an old man, passed away during the pandemic, which gave rise to an intra-family conflict between the heirs (mainly because the widow is not the mother of the children of the deceased). The Danish investor has visited Uganda recently but was not given access to the farm, nor to the part with the improved storage facility even though this was placed on a long-term leased piece of land. He has no desire to become part of an inheritance conflict and has accepted that he will not recover his investment. In hindsight, he says calmly, he should have pushed more for formalisation of the gentlemen's agreement between him and his friend. However, he has always lived by a rule of not investing more than he could afford to lose. Indeed, it has always been the friendship and the possibility to make a difference that have been the motivating factors.

SUMMARY ACROSS CASES AND RESEARCH LOCATIONS

This chapter summarises the characteristics of the Danish agricultural investments across the six presented cases. The six cases come from Tanzania and Uganda, three from each country. They are situated in very different settings, ranging from the very sparsely populated areas like Njombe, Iringa and Nwoya, to densely populated areas like Karatu and Kanungu. There are marked differences between the areas with regards to households' access to land, household poverty level and proportion of households that experience food insecurity. There are also marked differences in the frequency with which household heads take agricultural work in non-local commercial farms and in local farms. An overview of these and other area differences are presented in Table 9.1 below.

The investments are also very different. Two are in coffee; one is in flowers, two produce seeds as well as some animal production and grains, and the last one produces grains combined with agricultural services. The acreages of the farms span from 13 hectares (in coffee) or eight hectares intensively used for flower production in a 100-hectare property, over farms of 300 hectares with grains and seed or 700 hectares with coffee, forest and conservation areas, to very large farms, one farm with irrigation forming part of a conglomerate of farms that add up to 1,483 ha, and another farm with 2,000 hectares of mechanised but rain-fed agriculture. One of the six investments is an investment by a group of institutional investors. The other five investments are private investments, with one or two individuals behind the investment, which has subsequently been organised through a type of shareholding company or joint venture. Development finance institution loans, shares or grants have been involved in five of the six investments—not in the smallest of the six investments. These and other investment characteristics are also summarised in the table below.

The table below is organised in three sections. First, it summarises key area characteristics of each of the six research locations. This is followed by key investment characteristics of each of the six cases of foreign agricultural investments. Finally, the table contains a section on the pathways of desired

development effects. The table is based on the information presented in the above descriptions of the six cases of agricultural investments and research location characterisations.

Table 9.1. Overview of area and case characteristics and intended pathways for development outcomes

Theme	Sub-theme	Investment I	Investment II	Investment III	Investment IV	Investment V	Investment VI
Country		Tanzania	Tanzania	Tanzania	Uganda	Uganda	Uganda
Research location name		Njombe	Iringa	Karatu	Kanungu	Nwoya	Nakasongola
I: Area characteristics (source: AIDA surveys in research locations—data describing averages in research location, not the specific case investments)							
Population density, persons/km ²		25.5	34.6	106.2	187.0	34.9	48.0
% landless households		0.7	3.2	10.3	2.8	2.8	6.3
% households with less than 2 acres		27.1	20.0	49.9	61.4	30.3	34.9
Average ha/household ⁵⁰		1.98	2.11	1.10	1.11	7.32	4.80
Average # adults/ha ⁵¹		1.55	1.25	2.24	2.35	0.34	0.49
% households being food insecure > 1 month/year		3.5	13.1	28.0	57.1	57.3	40.4
% households non-poor, less poor and poorest		40/45/15	29/52/19	24/36/40	22/33/45	13/31/56	35/40/25
% households where household head takes agricultural work at non-locally owned farms		2.8	4.8	12.3	3.0	4.8	8.8
% households where household head takes agricultural work at locally owned, neighbouring farms		46.2	24.6	27.3	27.3	50.4	13.2
Mean daily payment for agricultural labourers (non-local/local farm), USD/day		2.86 / 2.26	2.49 / 2.35	2.08 / 1.74	2.77 / 1.11	1.55 / 1.17	2.22 / 2.40
II: Investment characteristics (source: interviews)							
Size, ha		100	1483 (part of congl).	700	13	2000	300

⁵⁰ Numbers based on the following number of households reporting their total access in exact number of acres (not in ranges) of land held inside the village: Njombe=178 households, Iringa=188 households, Karatu=211 households, Kanungu=302 households, Nwoya=354 households, Nakasongola=340 households.

⁵¹ Including only households that report having access to land, i.e. excluding landless households. Based on the average reported number of adults per households, which is Njombe=4.12, Iringa=4.35, Karatu=5.11, Kanungu=4.72, Nwoya=5.08, Nakasongola=4.78.

Main crop and activity	Flowers	Seeds, grains, livestock, and more	Coffee	Coffee	Maize, rice, chia and machine repair ⁵²	Seed maize (pigs), silos for storage
Investor type	Private	Institutional	Private	Private	Private	Private
Company organisation (nationally)	Ltd	Ltd	Ltd	Ltd	Ltd	Joint venture
Main sources of finance	Private	Capital fund	Private	Private	Private	Private
Development finance?	Yes, loan, ongoing	Yes, shares	Yes, loan, repaid	No	Yes, loan, repaid	Yes, grants
Start year of investment	2005	2014	1990 (2005)	2008	2003	2005
Initial time frame	Originally 5-6 years	10 years	Unlimited	Unlimited	Unlimited	Limited to personal engagement
Status	Closing/selling	Ongoing	Ongoing	Ongoing	Ongoing	Scaling down
Investment typology	Direct, active approach to investment; continued pre-existing land use	Indirect approach of investors; active involvement of investment advisor company; continued land use.	Direct, active approach; continued land use, but innovated with game corridors etc.	Direct and active approach; transformed land use from food crops to coffee (buffer).	Direct and active approach; transformed land use from unused to cultivated.	Direct, active approach to investment; continued former land use
Main motivations	Create development through business investment.	Impact investment: Return on investment and development impacts.	Combining high quality coffee with socially and environmentally friendly production.	Conservation-friendly production next to protected area that supports smallholder needs.	Helping population in area feed itself. Development and investment.	Improve living conditions for small-scale farmers.
Economic expectation	Positive return	IRR low/mid-teens	Positive return	Has to balance	Positive return	Has to balance
ESG reporting?	No	Yes, extended	Partly, certification	No	No	No
III: Pathways of desired development effects (source: interviews)						
Job creation (2018 data)	45-50 (154 at peak)	75 permanent jobs and (estimated) 35 full-time equivalents among	30 permanent, 500 temporary (~ 255 full-time equivalents)	7 full-time, 10 part-time employees	25 permanent staff, including permanent casuals, 20-	10-12 permanent staff, up to 100 day-labourers

⁵² Forestry crops being developed from 2019 onwards.

			temporary positions ⁵³			60 casual labourers ⁵⁴	
Jobs per ha (full-time equivalents)	0.45 (1.52 at peak) ⁵⁵	0.07 ⁵⁶	0.36 ⁵⁷	1.05 ⁵⁸	0.02 ⁵⁹	0.24 ⁶⁰	
Business model	Offer post-harvest storage for others?	No	Yes	No	Yes	Yes	Yes
	Market provision/ stimulating demand for producers in area?	No	Yes	No	Yes, purchase and further sale	Yes, purchase and further sale	Yes, and WFP negotiation
	Training	Occupational health	On the job + poultry capacity building + Outgrowers (NGOs)	Retraining existing staff; inspiring a producers' network. University collaboration	Yes; agro-mechanics; inspiring neighbours	Yes; agro-mechanics; inspiring neighbours	Model farm
	Outgrower scheme	No	Yes	No	Yes, buys from 5 local producers	No	No
Technology		Low-tech greenhouses; drip irrigation (formerly: cold storage)	Highly mechanised farming; agrochemical pest control	Drip irrigation, pruning, professional coffee management input	Organic production; drying-control	Mechanised agric., training and repairs;	Improved seeds and post-harvest loss reduction
Product	Seeds	No	Yes + yield increase	No	No	No	Yes + yield increase
	Product quality improvement	No	Seeds and new varieties	Top quality	Organic, different price range	Inputs and timing	Seeds

⁵³ The job creation had increased to 86 permanent and 39 full-time equivalents among temporary labourers in 2021.

⁵⁴ By 2022, employment has increased to 30 permanent staff (incl. perm. casuals), 30-60 temp. casual labourers.

⁵⁵ If only the 8 ha of flower production is calculated, the numbers are 5.63 jobs/hectare (and 19.25 jobs/hectare at peak).

⁵⁶ By 2022, this figure had increased to 0.08 jobs per hectare (full-time equivalents). If looking at the number of jobs (even if only part-time and seasonal), Investment II created income opportunities for 0.17 person per hectare in 2018, and for 0.19 person per hectare in 2021. If considering only the cultivated area (662 hectares), the figures are 0.17 full-time job equivalents created per cropped hectare in 2018, increasing to 0.19 full-time job equivalents in 2021. Considering all jobs created (even if only part-time and seasonal), Investment II created income opportunities for 0.38 persons per cultivated hectare in 2018, increasing to 0.43 persons per cultivated hectare in 2021.

⁵⁷ 0.71 jobs/ha if counting jobs (even if temporary/seasonal).

⁵⁸ Previously, and if counting part-time jobs, as many as 1.92 jobs/ha.

⁵⁹ By 2022, this number has increased to 0.03 jobs per hectare (full-time equivalents).

⁶⁰ 0.37 jobs/hectare if all jobs (even part-time and seasonal) are counted.

	Introduced new crops in area	No	Soya	(new branding of improved product)	Coffee as 'buffer' crop in conservation	Chia; macadamia and cashew nuts	No
Other economic effects/activity		Economic activity in area	Economic activity, multiplier effect	Economic activity	Inspired coffee producer cooperative	Machine station; repairs, inspiration	Post-harvest loss reduction
CSR	School	-	Yes	Yes (Foundation)	-	Trainee programme (4 years)	
	Health	-	Yes	-	-	Yes	-
	Other public infrastructure	Support to police station	-	Water post	-	Water post, store, TV (and internet and church by 2022)	-
	Roads	-	Yes	Yes	(Yes)	Yes	-
Uphold support to protected area		n.a.	n.a.	Yes	Yes	n.a.	n.a.
Place branding		-	-	Yes	(Yes)	-	-

Source: Own elaboration based e.g. on interviews with investors and on the AIDA survey.

Summary of investment characteristics across investments

Following the investment typology proposed by Gallent et al. (2019), the five agricultural investments with private investor(s) can be characterised as having a **direct** and **active investment approach**. It is direct because the investors themselves are involved in the daily or weekly management decisions, rather than leaving these decisions to an asset manager or an asset management company. They are active in the sense that the investors are involved in land use decisions, and in addition to their ownership of (or long-term rental agreements for) the land, they also invest in buildings, infrastructure, the land, its use, etc. The investment made by institutional investors, on the other hand, can be characterised as having an **indirect investment approach** in that the institutional investors have left the management decisions to an asset management company. Yet, the motive of the investment is not to own for the sake of possessing, but rather to own in order to transform, farm and produce, and from this earn a good return on the investment. Thus, the **asset management company has an active involvement** with several employees who are always present and engage in land and infrastructure improvements, equipment, buildings and the day-to-day farming of the land.

Four of the investment cases have continued pre-existing land use (I, II, III, VI), although they may have expanded the area under cultivation (III, IV), or innovated with the introduction of, for example, game corridors (III). Two of the

investments are characterised by having transformed the land use on the area of the investment. Investment IV has transformed the land use from food crops, which suffered severely from the presence of the wild animals in the protected area bordering the farm, to a perennial cash crop like coffee, which does not attract wild animals to the same extent and is intended to work as a buffer zone between the protected area and the smallholder farms with food crops. Investment V has transformed the land from uncultivated to cultivated. The large tracts of uncultivated land had both environmental reasons (the presence of the tsetse fly, which produced sleeping sickness in the area until a few decades earlier, causing the area to be declared a game park) and political reasons (the long civil war in this part of Uganda). There are plans to further transform the land use with the introduction of tree crops.

In all the six investments, positive development impacts are important motivations for the investors' involvement. Four of the investments have *positive* economic returns, or the business aspect of the investment, as a precondition for the continued involvement. In two of the investments, the expectation is that the investment *must balance*, economically, for the investor. Investment II characterises itself as an 'impact investment' in the sense that, to succeed, it must combine the creation of high rates of return on the investment with social, economic and/or environmental improvements for people or areas near the investment. Investment I and IV explicitly want to create positive local development impacts through the business development. One (I) focuses on the creation of employment, whereas the other (IV) focuses on the ability of the local farmers to produce sufficient food for the population. Closely related to this is investment VI, which is motivated by a desire to improve living conditions for small-scale farmers through improving their farming, although the business element is less strongly pronounced here. Two of the investments (III and IV) are strongly motivated by the investors' engagement in nature and conservation, as well as in social well-being. Both are coffee plantations and both work to find innovative ways to accommodate wildlife and uphold the support to protected areas nearby by proving (finding ways to prove) that it is possible to grow coffee in ways that are environmentally friendly, while at the same time provide income and jobs in the area. In both investments, the produce is highly traceable, it is exported to high-income countries, and the social and environmental aspects of the production is an integrated part of the product brand.

The institutional investment (II) stands out as the only of the six investments which carries out reporting on environmental, social and governance issues (ESG reporting), and does so in an elaborate manner. The institutional investors require the ESG reporting, as the impact profile of the investment(s) is one of the elements that pension funds in Denmark compete for their customers on. Investment III, however, adheres to an environmental (and partly social) certification, which also implies that the production follows certain environmental and social standards, and that this is documented.

Summary of intended pathways of development outcomes, across investments

In many of the investments, the investor sees the **creation of jobs** as one of the most important development outcomes (see for example Investments I, II, III, and VI). Regarding job creation, there are large differences between the investments with regards to the total number of jobs the investment creates, and the number of jobs created per area unit. Some investors specifically choose a labour-intensive crop in order to create as much local employment as possible (Investments I, III and VI). Other investments grow labour intensive crops, but for other primary purposes, either environmental/conservational (as in Investment IV) or for economic reasons and for the secondary effects stemming from seeds production (Investment II). The attention given to the importance of local job creation is to some extent reflected in the resulting number of jobs generated per hectare in these investments. A total of 1.05 full-time equivalent jobs/ha is created in Investment IV, which is characterised by local and low-tech oriented approaches, as the challenge to come up with solutions that can be duplicated and implemented by the local neighbouring farmers has been at the front of the business development of this specific investor. If counting the number of people employed in seasonal or part-time jobs and looking back to the initial years of the investment, the number is as high as 1.92 (part-time) jobs/ha. The investor behind Investment I, which has had local job creation as the main pathway for the intended development outcomes, achieves 0.45 jobs/ha for the flower farm, a number that was as high as 1.52 jobs/ha at the time of the peak production of the farm (and, obviously, is more than a factor 10 higher, if counting only the area where the flowers are farmed, excluding the pine plantation). Investment III, with large-scale coffee production (in addition to other tree crops, mixed farming and tourism) creates an estimated 0.36 full-time equivalent jobs/ha. If counting the number of persons employed in seasonal jobs (for example, as coffee pickers, which are full-time for a limited period of time) the number is double (0.71 part-time jobs/ha). Investment II and VI are both involved in the manual labour demanding production of seeds (among other initiatives, including reducing post-harvest losses through providing safe storage facilities), but at different scales, and one as irrigated and the other as rainfed agriculture. In 2018, Investment II, which is the most investment demanding and large-scale of the investments, created 0.07 jobs per hectare,⁶¹ while Investment VI created 0.24 jobs per hectare owned (full-time equivalents jobs).

Investment V is the only one that does not target any crops with high labour demand, and has from the outset had the strategy to help improve food security in the area of the investment through the introduction and service of mechanised agriculture and the required machines. This investment creates a total of 0.02 full-time equivalent jobs per hectare.⁶²

⁶¹ This number has increased to 0.07 jobs/hectare by 2021, due to higher employment generation.

⁶² The number fluctuates a bit. Previously, one of the initial investors opted for the employment of a large number of casual labourers, if for example harvest was needed, but due to the logistical challenges that it implies for a distant owner to employ large numbers of 'casuals' in a setting with limited infrastructure, the current investors have chosen to upgrade the number of combined harvesters instead. However, over

Considering the importance given to job creation when politicians discuss foreign agricultural investments in the context of low and middle-income countries, these numbers regarding the jobs created per area, are relatively low. Although it is not possible to compare directly to the number of jobs created by or adult mouths fed from each smallholder farm, it is interesting to recall that in the six research locations, the average acreage that households have access to (including only those households that report having access to land) span from 1.1 hectare/household in Karatu and Kanungu research locations, to 4.8 and 7.3 hectares/household in Nakasongola and Nwoya research locations, respectively. Taking into consideration the varying (average) household sizes, and counting only the adult household members, and still including only those households that report having access to land to farm, the average land access per adult household member varies from 2.2 and 2.3 adults per hectare in Karatu and Kanungu, respectively, to the more moderate 1.3 and 1.5 adults per hectare in Iringa and Njombe, to the more plentiful 0.5 and 0.3 adults per hectare in Nakasongola and Nwoya, respectively.

Other intended pathways to positive development outcomes

Several of the investments have established large **storage facilities**, which can help reduce or prevent post-harvest losses (Investments II, V and VI). In Investment VI, the storage facilities are available for farmers in the area, who wants to rent storage space, i.e. the storage can also be used by farmers who do not want to sell their crops. For all three investments, these storage facilities help increase the local market for the crops of interest, i.e. the stored crops are some that the investors have purchased.

Four of the investments (Investments II, IV, V and VI) **stimulate demand for other producers** in the area, i.e. strengthening the market for specific crops. Investment II does it through its 'value chain approach' (through the combined investments of the investors behind investment II, in other parts of the investment conglomerate), where large quantities of grains are sourced locally.⁶³ Investment IV provides a market for a handful of small-scale, organic coffee producers in the area, as well as for female organic vanilla producers in other parts of Uganda, through the investors' export of coffee and vanilla to Denmark. Investment V stimulates the local market in grains through their purchase for later reselling to large purchasers. Investment VI also purchases and resells grains from local producers. Furthermore, the investor behind Investment VI has achieved, through negotiations with WFP (to which Investment VI sold maize) that WFP Uganda has committed to source at least 20% of the maize distributed in Uganda *from* Ugandan producers. As the WFP is the largest player in the maize market in the region, this is an important achievement for ensuring markets for local producers.

the past few years, permanent employment has increased on Investment V, so the figure for 2021 is 0.03 jobs/hectare, not counting the trainee positions that have additionally been created.

⁶³ The value chain approach is deviated if prices are more favourable at the international market, as happened for soy.

Two of the six investments (Investments II and IV) have **outgrower schemes** as an integrated part of their business model. Investment II has an agreement with Agricultural Marketing Cooperative Societies (AMCOS), from which they purchase grains, which were originally intended to be produced on the farm of Investment II itself, but the land turned out to be better (and more economically rentable) used for seeds production, while quantities could be upscaled of ordinary grains if sourced from AMCOS in the region. Investment IV intended to make outgrower agreements with more than 100 local small-scale coffee producers, who were also trained in organic coffee production and improved post-harvest handling.⁶⁴ However, due to capital constraints, the investor now buys coffee only from a handful of trusted local small-scale producers.

Training and capacity building is another pathway of positive development outcome, which plays a larger or smaller role in all six investments. In Investment I, the focus has been on training of employees in how to handle labour safety, especially the safe handling of agrochemicals involved in flower production. The investor behind Investment VI describes the farm as a ‘model farm’, where fellow farmers are welcome to come and get inspiration and knowledge. A lot of this investor’s time on the farm is spent on capacity building, from company management and planning, to technical solutions to concrete challenges. The representative of Investment II describes how employees get on-the-job training. However, the gap in technology used on Investment II, relative to that available to the local employees on their own farms, limits the direct applicability of acquired skills.⁶⁵ Training in organic production techniques and improved post-harvest handling and drying, to improve the quality of the coffee, was organised by the investor behind Investment IV, in collaboration with Danish and Ugandan organic farmer organisations. Additionally, efforts were made to strengthen the awareness and legal literacy of the small-scale coffee producers, including through the translation of standard contracts into the local language.

The investors behind Investment V have, from the onset of the investment, worked with capacity building, mainly focused on building skills to operate, maintain and repair agricultural machines. This is a focus that fits well with the professional background of the (main) investors, as well as with the founding idea of establishing a ‘machine station’ providing agricultural services, that would enable farmers in the area to grow more food, needed for the local population.⁶⁶ When selling agricultural machines, the investors behind Investment V learned to include some days of capacity building for the buyer (or operator), as an attempt

⁶⁴ The rationale of the outgrower set-up was to stimulate not only the production of coffee as a buffer crop between the wild animals in the national parks and the rural population’s food crops, but also to ensure that the coffee production was organic, thereby taking care of the valuable nature in the area.

⁶⁵ Related to the outgrower aspect of the business model (indirectly related to Investment II; more directly related to other parts of the investment conglomerate) there is a lot of emphasis on capacity building for local farmers (participants in the aforementioned AMCOS) through the investment management company’s collaboration with NGOs and the introduction of new crops like soy, and improved farming techniques, including the use of hybrid seeds. Furthermore, training is a focal point in a business model focused on the value chain of chicken production, handled by another part of the investment conglomerate, of which Investment II is part.

⁶⁶ The capacity building of mechanical technicians and tractor operators is an ongoing activity, as larger and more economically powerful investors ‘steal’ the staff from Investment V by offering higher salaries.

to prevent that tractors and other machines from getting ‘grounded’ due to misuse or lack of maintenance. The main investor dreams about establishing a school of technical agriculture that could teach basic technical skills needed to operate and maintain the much-needed mechanical equipment and give it a long life. Finally, the investors and the (changing) farm managers welcome neighbouring farmers who want to see the fields or have questions about specific pests or challenges. The internet access at the farm may come in handy, when new questions come up. An exchange of experiences also takes place in an informal network between the foreign investors in the area.

The investor behind Investment III also has a very strong focus on capacity building related to the activities on Investment III. The investor collaborates with the national agricultural university, from where the estate receives recently graduated candidates, as apprentices. When restructuring the farm from a mixed farm to a coffee focus, the investor offered the staff to be retrained, rather than having to lay them off. Furthermore, the investor is an active part of a knowledge network that has developed between (large-scale) coffee producers in the region.

Introduction of new technology or use of low-tech solutions that are easily applicable. The technological level of the investments differs. For example, Investments I, II and III involve irrigation, while Investments IV, V and VI are rain-fed. There is a high level of mechanisation of the agricultural operations in Investments II and V, and whereas Investment III also is at a high technical level, it depends more on manual labour due to the perennial nature of the crop and its needs. Investment IV stands out as one that tries to lift the quality of the product through low-tech means that are (more) available to most local farmers, and thus can be copied.

Two of the investments, Investment II and VI, produce **seeds**, which they also highlight as one of the important pathways for positive development outcomes of the investment. In both cases, the (expected) increased yields are referred to as a dynamic or an indirect effect of the investment. The explicit point of reference is a small-scale farmer using homegrown seeds, and the (potential) yield increase if using good quality hybrid seeds. In Investment II, a 60% yield increase is assumed, or a 44% income crease for ‘a small-scale farmer’. The investor behind Investment VI assesses that small-scale farmers in the area close to the investment will increase their production by 25-50%, compared to a non-hybrid seed user. The investor assesses that the farm produces sufficient seeds to reach 30,000 farmers with a two-to-three acre farm and considers this—the increased production at those farms—the most important development impact of Investment VI.

Quality improvement and development. The two investments that produce coffee both work consciously at improving the quality of the product. The investor behind Investment III does so through certification, and through a continuous improvement of the handling of the coffee (at the plantation and post-harvest), guided by the best Kenyan experts. The investor behind Investment IV does so through the organic production and through a low-tech approach to pre- and post-harvest handling, something that has indeed inspired the organisers of a

cooperative of coffee producers in the area, thereby leading to the application of these practices on much larger areas than those of Investment IV.⁶⁷ Both investments work with the branding and the traceability of the coffee from each farm.

The traceability and high-level marketing of Investment III is likely to have a similarly inspiring effect on the estate-owners in the network of coffee producers. The investor behind Investment III also highlights the **place branding effects** of the coffee and estate branding—something that benefits the area of Karatu and all of Tanzania, when for example being represented at large agriculture fairs in Europe, through the participation of this single estate.

Other investors highlight **other dynamic or secondary effects**. Investment V, for example, mainly highlights the importance of the existence of Investment V in terms of **agricultural productivity**, not only with its import and sales of agricultural machines, but also its exceptionally well-equipped mechanical workshop and its storage of spare parts, especially within hydraulics. This enables expensive and much needed **equipment to be repaired** and be returned in a timely manner to harvest, prepare soil, or the like. The investor behind Investment VI highlights the indirect effects of the **post-harvest loss reduction** through the availability of secure storage. Investments II and III, and to a lesser degree Investment I and V, highlight the **multiplier effects that follow from the salaries** that are paid to employees in the area which creates more economic activity, as can be seen in shops, improved housing or in paid school fees. Also, the increased labour force that increases demand for rented rooms, adding new sources of income to those already existing for families in the villages and small towns is mentioned as a multiplier effect.

Finally, four of the six investments explicitly address **Corporate Social Responsibility (CSR) activities**, although to a different extent. For example, they react positively to community requests for support for public infrastructure like a new police station (Investment I) or school buildings or health facilities (Investment II and III and V). When obtaining water posts for the investment, the investors seek to ensure that there is also a water post with public access (Investment III and V)—in both cases, the water is partly installed with support from development finance. Investment V also ensures that there is a local (micro) store, with TV and electricity, and the possibility for charging mobile phones and accessing the internet. The investor behind Investment III has created a foundation that supports local education, more specifically books, school building

⁶⁷ Investment IV is a very small investment of only 13 hectares of coffee and forest. Yet, it has inspired coffee producers in the area to use techniques that improve the quality of the coffee, and also to use the coffee as a 'buffer' crop, that can help decrease the conflict between wildlife conservation and small-scale farmers depending on food crops to feed their families. A local cooperative of coffee producers was established a couple of years after the establishment of Investment IV, which explicitly works to preserve wildlife. Like Investment IV, they use this in the branding of the coffee, thereby accessing a different price bracket than if selling the coffee to local purchasers. Several of the founders of the Gorilla Coffee Cooperative were trained in the courses offered by the investor behind Investment IV, and they refer directly to this specific investor and to the training when explaining how Gorilla Coffee Cooperative came into existence.

improvements and new facilities. Furthermore, this investor is engaged in attracting volunteer teachers from Europe to support the teachers in the local school. The efforts have resulted in a dramatic jump in the rank of the local school, relative to the other schools in the district.

Four of the six investments (Investment II, III, IV and V) have, furthermore, been involved in constructing or improving roads leading to the investment site but benefitting the entire population using those roads.

Comparing the jobs created per hectare under foreign agricultural investment with the number of jobs created by the land managed by ordinary small-scale farmers, the data from the six research locations and case investments show a large gap, where the small-scale farming sustains many more jobs per hectare. Consequently, the focus on other pathways to achieve positive development impact must be strengthened in a world with finite land resources and a growing human population.

REFERENCES

- Byaruhanga, M. B. (in preparation). Large scale agricultural investments in Uganda: Implications for labour migration. Draft manuscript.
- FAO, WFP and IFAD. 2019. Food loss analysis: Causes and solutions – the Republic of Uganda. Beans, maize and sunflower studies. Rome. 212 pp. Licence: CC BY-NC-SA 3.0 IGO. Retrieved from: <https://www.fao.org/3/ca4524en/ca4524en.pdf>
- Gallent, N., Hamiduddin, I., Juntti, M., Livingstone, N. and Stirling, P. (2019). New money in rural areas. Land investment in Europe and its place impacts. Palgrave Macmillan UK.
- Ravnborg, H. M., Bashaasha, B., Broegaard, R. B., Byaruhanga, M., Lazaro, E., Maro, F., Mutabazi, K., Nakanwagi, T. and Tumusiime, D. (2021). Tracing the development outcomes of agricultural investments in six research locations in Tanzania and Uganda: Questionnaire survey design and sample characterisation (2021:05; DIIS Working Papers). Retrieved from: https://pure.diis.dk/ws/files/4256012/Tracing_development_outcomes_agricultural_investments_DIIS_WP_2021_05.pdf
- Ravnborg, H. M. and Broegaard, R. B. (in preparation). Dreams and motivations: Insights from a mapping of Danish agricultural investors in sub-Saharan Africa [working title]. A preliminary draft was presented at the conference Asia and Africa in transition. University of Copenhagen, June 28-30, 2021. 15 p.
- Twinomujuni, N. and Rwabwogo, M. O. (2011). Uganda districts information handbook, expanded edition 2011-2012. Kampala: Fountain Publishers. United Republic of Tanzania-URT. 2013. “2012 Population and Housing Census- Population Distribution by Region, District, Ward and Village”. Dar es Salaam and Zanzibar: National Bureau of Statistics, Ministry of Finance and Office of Chief Government Statistician, President's Office, Finance, Economy and Development Planning.
- Uganda Bureau of Statistics. (2016). The National Population and Housing census 2014. Kampala: Uganda Bureau of Statistics.
- Uganda Bureau of Statistics. (2017). National population and housing census 2014. Analytical report. Kampala: Uganda Bureau of Statistics.
- USAID. (2016). USAID country profile- Land tenure and property rights: Tanzania (Issue December 2016). Retrieved from: https://www.land-links.org/wp-content/uploads/2016/09/USAID_Tanzania_Country_Profile.pdf